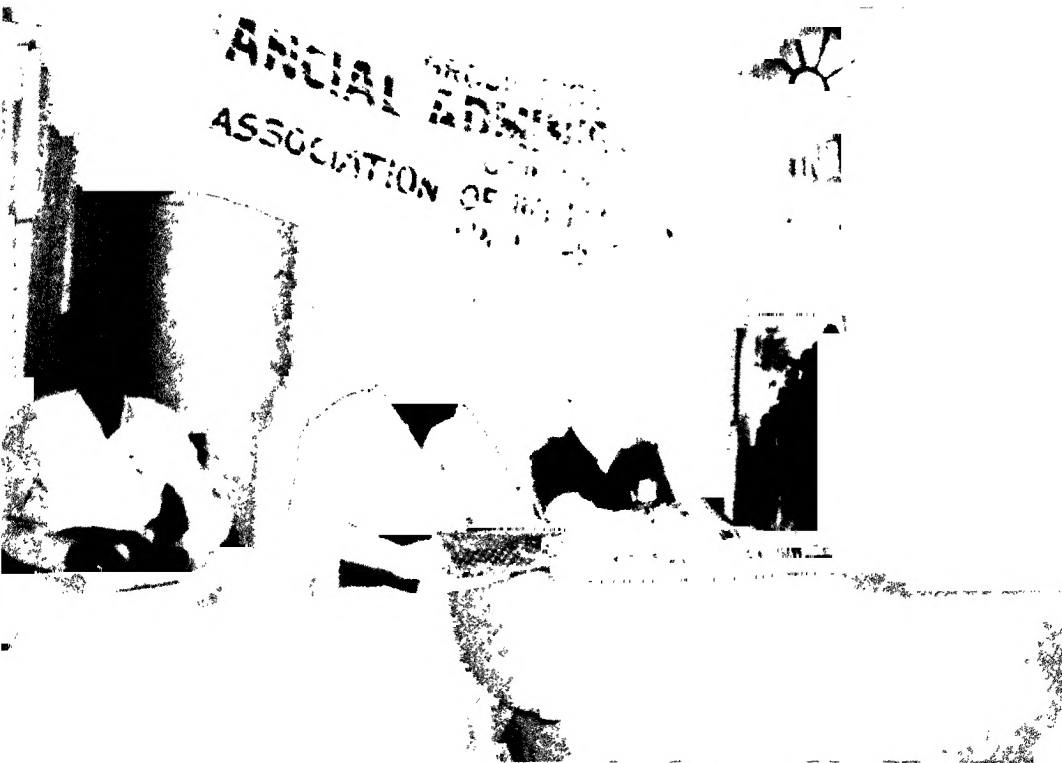


University News

MONDAY, JUNE 20, 1988

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Shri J. Veera Raghavan (second from right), Secretary, Ministry of Human Resource Development, delivering the valedictory address at the Group Discussion-cum-Orientation Programme on Financial Administration In Universities organised by AIU at the University of Poona. Others seen (from L to R) are Shri V.S. Pol, Registrar, Prof. S.N. Navalgundkar, Pro-Vice-Chancellor, Prof. V.G. Bhide, Vice-Chancellor and Prof. S.K. Agrawala, Secretary, AIU.

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Editor:
SUTINDER SINGH

People's Science Movement Karnataka Rajya Vijnana Parishat

M. I. Savadatti*

M. A. Sethu Rao**

The Karnataka Rajya Vijnana Parishat (KRVP), a voluntary organisation founded in 1980 and devoted to the popularisation of science and spreading of scientific temper, was recently awarded the inaugural prestigious national award of the National Council of Science and Technology Communication (NCSTC), Government of India. We are pleased to publish this write-up on this torch bearer of the People's Science Movement.

Introduction

The aim of Science is to acquire an accurate and dependable knowledge of the world around us. Aim of technology is to devise methods of using that knowledge for man's benefit. So, one can easily see that the origins of Science and Technology merge with the origin of man himself. For, man got differentiated from the rest of animals when he started using stone tools and the use of stone tools presupposes a knowledge of different kinds of stones (Science), and a knowledge of the methods of shaping them into the desired implements (Technology).

Science and Technology which thus arose out of the daily labour of the common man, started slowly moving away from him on account of specialization. In course of time they became so highly specialized that the common man got alienated from them and they became the preserve of a small coterie of supposedly wise men, who did all the Science and Technology and passed on the fruits to the common man, who, in the meanwhile, stopped taking interest in Science. The last few decades, however, have witnessed the wheel turning a full circle and today the common man can no longer afford not to take interest in Science. These are some of the factors responsible for the new situation calling for Popularisation of Science.

Firstly Science through its handmaid, technology, has penetrated into the day to day life of the common man even in the remotest corners of the world. Rural electrification in this part of our country can serve as a pointer. Half a century ago, not more than half a dozen cities and towns of Karnataka had the benefit of electric lighting. Other electrical appliances were curiosities. Today, 93 per cent of villages in Karnataka have been electrified. The average villager is familiar not only with electric lighting but also with electric pumpsets and other gadgets. He is conversant with tractors, chemical fertilizers, pesticides, varieties of plastics, transistors, radio sets and TV sets. Because of all this it has become imperative that he should acquire some measure of knowledge

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concerning the how, why and what of all these accessories of modern life.

The second important change that has come about is that science has invaded statecraft, the art of running state affairs, in an unprecedented manner. A dozen or more Government Departments of today are wholly concerned with Science and Technology: the Departments of Science and Technology, Atom Energy, Space, Electronics, Ocean Development, Environment and so on. The total involvement of these departments in science is reflected in the fact that the secretaries who run these departments are often not professional administrators but professional scientists. Laying down policies for these departments, allocating budgetary provisions, deciding priorities are the responsibilities of the elected representatives of the people, who, in a true democracy, have to be guided by public opinion. In such a situation, scientific illiteracy of the common people can be exploited by vested interests. So, if our loyalty to democracy is genuine, imparting science education to our people is a matter of highest priority. Steps have to be taken to disseminate knowledge about science, its history, its achievements, its potentialities, its impact on society and, more than all, its method of approach to problems. It is in this background that Jacob Bronowski declared that the world today is made by science and is powered by science and for any person to abdicate an interest in science is to walk with open eyes into slavery.

The third reason why scientific education of the masses is of paramount importance is because of the salutary effect of the prevalence of a science and technology consciousness among the people and the harmful effect of the lack of such consciousness. If the majority of persons in a community evince an interest in scientific and technological developments, look for scientific reasons for all happenings and seek scientific solutions for their problems, it would create a climate in which even the scientifically untrained would tend to fall into the same groove. The absence of such a climate would push even the scientifically trained to adopt superstitions and obscurantist postures.

There is thus a need for an extensive programme of disseminating Science and the Scientific attitude among the masses. Scientists, no doubt, play an important role in such a programme. But, science has become far too important to be left to the scientists alone! Nothing short of a people's movement encompassing all sections of the population can meet

the needs of an organised effort to popularise science.

Karnataka Rajya Vijnana Parishat (KRVP)

The situation being ripe for it, the need for such a People's Science Movement was felt more or less simultaneously in different parts of our country during the last two or three decades and the period has witnessed the formation of several voluntary organisations in different linguistic regions.

The Karnataka Rajya Vijnana Parishat (KRVP) itself is a voluntary organisation founded in 1980, and devoted to the popularisation of Science and Spreading of Scientific Temper. It commenced as a project of the Karnataka State Council for Science and Technology (KSCST) on popularisation of science. Shri M.A. Sethu Rao, Joint Secretary of KSCST convened the project which later blossomed into a statewide organisation. KRVP now has about 300 units and 42 science centres spread across the length and breadth of Karnataka. KRVP's main target groups include children, students and youth, especially those in the rural areas.

KRVP has developed strong links with sister organisations such as KSCST, ASTRA, CFS (IISc), ABAA, and is also associated with People's Science Movements throughout the country. KRVP spearheads a popular science movement in the State. It has secured the academic support of scientists from the Indian Institute of Science, universities in the State, the National Aeronautical Laboratory, Association of Bangalore Amateur Astronomers and other national and state bodies of Science and Technology. It has drawn upon the resource personnel of the IISc to deliver popular science lectures and works in close coordination with the UGC's popular science lecture scheme of IISc.

Supported by the Department of Science and Technology (Government of Karnataka) and the Department of Science and Technology (Government of India), KRVP is popular among students and youth of the State. Work of KRVP has been recognised by Government of India whose NCSTC has awarded the inaugural prestigious national award to KRVP for outstanding work in popularisation of Science and Technology. The citation refers to the effective network of KRVP units in the State, its telescope workshop and astronomy books, its efforts in popularising scientific temper and dissemination of rural technology etc.

Some Significant Programmes

A few significant components of KRVP's programmes are : Setting up Science Centres; Creation of scientific literature in Kannada, Production of science films, science kits, slides and posters, Environmental studies, camps, etc. Organisation of workshops, seminars, Organisation of All Karnataka Science Conference (Sammelana), and Dissemination of rural technologies.

1. Telescope Workshop

In association with the Association of Bangalore Amateur Astronomers (ABAA) four telescope workshops have been organised during 1984, 1985, 1986 and 1987. During 1986 and 1987, States outside Karnataka have also sent their representatives.

As a part of our project on Astronomy, the following books have been published and there is a continuous popular demand for them.

1. A Guide to the Night Sky (English and Kannada)
2. How to build a telescope (English and Kannada)
3. Clusters, Nebulae and Galaxies (English and Kannada)

It is proposed to organise such astronomy workshops every year with the financial support of NCSTC.

2. Production of Slides and Science Films

With the assistance of the Department of Science and Technology (Government of Karnataka), KRVP has produced the following films :

1. Parisara
2. Environmental Pollution
3. Energy (English and Kannada)
4. Scientific Attitude (English and Kannada)
5. Health and Hygiene.

Schools, colleges, KRVP units, theatres and doordarshan have been screening these films. A few copies are available for sale.

Besides these, KRVP is providing the following slide sets for popular science lectures and science exhibitions :

- (1) Universe, (2) Starwars, (3) Western Ghats, (4) Energy, (5) Forests. (6) Indian Scientists, (7) Snakes etc.

The audio visual media is being effectively used for communication, especially in rural areas.

3. Environmental Camps

In collaboration with other organisations, KRVP units have been organising environmental camps. In these camps, environmental education is provided through films, nature studies, bird watching, expeditions, lectures, slide shows, wall posters etc. Camps are held in rural areas.

4. Science Festival

A few of the very active KRVP units have launched a programme of science festival. The programme generally spreads over a period of two to four weeks.

During this festival, KRVP activists participate in processions highlighting various themes such as environmental protection, pollution, etc., with the aid of slogans, films, slides, folk dance, plays etc. An intensive programme of selling popular science books is also one of the tasks. During October 1985, a month long science festival was organised by the Tumkur unit of KRVP. The festival turned into a multimedia communication effort and a precursor to Bharatk Jan Vigyan Jatha '87.

5. Science Centres

KRVP has established a number of Science Centres in the State. Prominent ones are at Institution of Engineers, Mysore and Belgaum Vijnana Kendra at Belgaum.

Objectives of the Science Centre

1. To enable the students to familiarise themselves with fundamental concepts in mathematics, physics, chemistry and biology through experimentation,
2. To develop a scientific attitude,

3. To provide a platform for scientific activities in villages, towns, taluks etc., and
4. To highlight environmental issues.

Belgaum Vijnana Kendra

The main inspiration for this is the Vikram Sarabhai Community Science Centre at Ahmedabad.

The Centre has already organised science education programmes for students of high schools and colleges. It has ongoing programmes for women working in nursery schools (Anganwadis). Some of the significant activities of the Science Centre are : Computer training, Seminars on energy, Science kit production, Environmental education programme, Science playground, and Curriculum development, etc.

6. KRVP Publications

Balavijnana

KRVP has been publishing 'Balavijnana', a science monthly in Kannada, since 1977. This caters to the students of high schools, neo-literates, etc. In addition to articles on selected subjects, it contains 'Do it Yourself', 'Science Quiz', 'Science Progress', 'Science Wonder', 'Question Box' as permanent features. Today the print order of Balavijnana is 16,000 copies. Balavijnana has become an asset to students.

Popular Science Books

KRVP has so far published about 35 books on popular science and these low priced books have turned out to be very popular. Some of the titles have established a record in the history of Kannada book sales. These have gone through two or three editions, each of 5,000 copies or more.

Vijnana Deepa

Vijnana Deepa is a monthly wallnewspaper on science, produced for the benefit of students of primary schools. So far 20 issues have been brought out.

7. Akhila Karnataka Vijnana Sammelana

To ensure public participation in KRVP programmes and to coordinate unit activities, a state level

science conference is held once in two years. The first conference was held at Dharwad in May 1984, the second in Gulbarga in October 1985, and the third was held at Tumkur in October 1987.

8. Rural Development Programme

KRVP units have been engaged in the construction, diffusion and evaluation of the ASTRA OLE (fuel efficient woodstove) programme.

Our units are also assisting KSCST in monitoring wind speed in various places as a prelude to installation of windmills.

Other rural development activities include Social forestry, Free health check ups, and Animal husbandry.

9. Dissemination of Rural Technologies

Programme at Mariammanahally (Raichur District)

1. Mariammanahally becomes an adopted village
2. Smokeless village by constructing ASTRA OLE in every house.
3. Free medical examination and vaccination.
4. Free eye treatment in camp
5. Nutrition camp for Anganwadi teachers.
6. Science film shows.
7. Training in gardening, sericulture, etc.
8. Attempts at eradication of Devadasi system

10. Future Plans of KRVP

In the near future the KRVP intends to take up the following programmes :

1. Intensify science kits development programme
2. Production of video films, films and slides on science.
3. Production of a science glossary/dictionary.
4. Monitoring Astra Ole in the villages of Karnataka.
5. Organising Zilla Vijnana Sammelanas.
6. Establishing Planetarium in each district of Karnataka, etc. []

UNIVERSITY-INDUSTRY LINKAGE

S. P. Gupta*

Higher education has changed a great deal in its character in the recent past. Some of the changes are visible on the surface while some like a subcurrent are imperceptible yet slow and sure like natural evolution they do happen along the arrow of time. Two deep features of this evolution are especially significant. First, higher education is becoming more diverse as the call for wide access gathers strength. More women and more students from the weaker sections of society are now entering the portals of universities and colleges. Further, there is growing interest in late entry into universities as a degree is becoming more valuable to an individual for his professional development, cultural enrichment and social status improvement. More than half of Swedish entrants to higher education are over 25 years old now.

So, with the growing interest of adults in furthering their education and opening of open universities and distance education programmes, more and more students will be part-time; more courses will be continuing education courses and more research will be of the applied kind. Secondly, higher education is becoming less liberal and more vocational in its ethos. The classical mission to socialize a student and to make him a gentleman has to give precedence to the demand for vocational education. There is a demand for gearing the courses and curricula more closely to the labour market. Both State and Society want vocational skills to be taught at universities—for example, computer programming, secretarial practice and accountancy. Students favour an education with clear job prospects. Yet the supply of seats in vocational programmes cannot meet the demand, not to say of courses in engineering and medicine. Our universities have to accommodate vocational courses themselves in the absence of vocational colleges or Polytechnics of the British kind or community colleges of the American kind.

These shifts in the character of higher education are producing a changed environment in the total educational scenario. A university can no longer be content with the classic function of creating liberal minds, well equipped to face an issue as it comes in

varied walks of life. More than anything, the country needs good quality manpower and higher education should be in the business of producing good quality graduates. Whatever their subjects, such people should possess broad and lively minds reinforced by intellectual, practical and, last but not the least, physical competence. Analysis and problem solving in their broad sense are no less important in an arts graduate than flair, imagination and good communication ability in an engineering graduate. Apart from their merit *per se*, these qualities are called for in the field and professions. All kinds of graduates—arts to engineering—are being recruited into the areas of marketing, management, finance and civil services. They all will need to be able to think systematically, analyse, synthesize and even to create. In addition, they all will need to operate the management tools including the modern office equipment.

All graduates must eventually go to various employers for jobs, viz. government, commerce and industry. However, one of the glaring drawbacks of higher education in India is the want of any interaction whatsoever with the employes. In the employer—higher education linkage, the scope for cross-fertilization is enormous and because both have much to offer, the mutual benefits can be quite substantial. Sir Kenneth Baker, Secretary to the British Department of Education & Science, recently stressed the urgency of forging stronger linkage between universities and industries in Britain where there is already a base built up for decades. Among other things, the concern of British Universities and Polytechnics today is to attract large sums of money from industry and commerce. While this may not be the immediate issue in India, there are other significant results to be expected. Let us see how the university-industry linkage can be forged and how it may work in India.

(1) The teachers, once they are in the academic system, hardly go to the field for practical training or long exposure. With the proposed linkage, they should gain breadth of experience and expertise, keep up to date with the latest developments and techniques, and obtain access to expensive equipment and other resources.

(2) Our industrial and commercial concerns do

* Additional Secretary, University Grants Commission, New Delhi-110 002.

not continuously refashion themselves in keeping with the international trend. They can benefit from the research and consultancy services of the universities. The range of expertise which they can tap provides opportunities to expand their activities and marketing potential. Some sections of their employees would gain from the contacts established but most, if not all, would gain from the increasing development of continuing education provision, refresher courses and seminars at the institutions.

(3) As regards the students, they would gain from their teachers' updated knowledge; from arrangements whereby knowledgeable people from outside universities act as visiting faculty, from involvement by industrialists and others in course design; and from the cycle of sponsorship, work experience and employment which is beneficial to all.

It is possible to organise a variety of regular academic courses with the collaboration of industries, for example, the practice school system of the BITS, Pilani or sandwich courses whereby the students spend several semesters of their course in the industry itself.

(4) Another aspect of industry-university linkage is the development of science parks' involving partnership between a university and a leading industrial or commercial investor. The science parks provide highly valued consultancy services and technology transfer facilities. They are in the forefront of the latest development and active in new science and hi-tech. American universities also encourage their academics to set up their own enterprises based on their R & D work.

In India this is yet to begin. The Department of Science & Technology, Government of India, started a programme called STEP (Science and Technology Entrepreneurship Park) whereunder entrepreneurs are attracted to start industrial activities and the basic infrastructural facilities are provided by the universities/colleges.

It seems the mutual benefits of the linkage have yet to be conveyed to the industries as too few of them know what higher education institutions can uniquely offer to them. It is a two-way process and both universities and industries have to continually interact. It is necessary to represent industry and commerce in higher education at different forms, e.g., Boards of Studies, various kinds of management committees, Executive Council, etc. This is perhaps

essential for the reform of higher education functioning. But for all this to work effectively, we need more of outside academic people to devote time to educational responsibilities at various stages of their career. It is then for the institutions to ensure that they put the time of their collaborations to most effective use.

What would then be done by the universities and colleges? To start with they can initiate dialogues with industries, research funding agencies of various government departments, research institutions and commercial establishments and come to some understanding as regards the scope of collaboration. Thereafter joint groups may sit to chalk out the modus operandi. If it is decided to set up a joint centre, institution or laboratory at the University Campus, it will be necessary to provide it full autonomy. Already there are some autonomous institutions at the university like the Mass Communication Centre at Jamia Millia Islamia, Nuclear Science Centre at the JUN and the Rangapur Observatory at the Osmania University.

While the universities are autonomous institutions they have not yet provided desirable autonomy to its departments and colleges and in the circumstances they themselves bear the ever-increasing load of administration, course designing and curricula examinations and disciplinary matters. Many departments of universities can go on their own if given the necessary freedom in administrative, academic and financial matters. A move has been made by the Bombay University, for example, in giving autonomy to its Department of Chemical Technology and the Jamnalal Bajaj Institute of Management Studies. The UGC is framing guidelines for autonomous departments with the help of a committee, as it has done in the case of autonomous colleges.

It is well known that many of our colleges have good potential for development if they have the freedom to initiate and implement educational programmes which they think to be in the best interest of the society. The affiliating system does not allow the required freedom to the colleges to meet the demands expected by the society from them. The academic decisions need quicker pace for making innovations and designing curricula and methods more relevant to the area in which the institution works. Given autonomy, the teachers and students of a college can make innovations, use their creative talent and collaborate with outside institutions more

(Continued on page 17)

CHANGE AGENTS

"You cannot go in as normal input into the system which is already designed and you are going to fit in. You must go in as change agents for change which is geared towards tomorrow. You must create new work environment, new work standards, new work ethics, new work ethos, only after that kind of concern, you will be able to make a contribution", said Shri S.G. Pitroda, Adviser to the Prime Minister on Technology Missions, Government of India while delivering the Convocation Address at the second convocation of the Biria Institute of Technology, Mesra, Ranchi. He however sounded a word of caution when he said "It won't take more than five years in the system we have for you to loose your initiative and I urge you to be on guard every minute. I urge you to be on guard in every opportunity you get to make sure that you remain change agent. Your success is going to depend on your ability to remain as a change agent with fresh mind and fresh thinking". Excerpts.

Agriculture has been one of the important success stories of our time. Inspite of the drought last year we didn't have to import any food in 1987-88. That speaks for the professional in agriculture that we have been able to produce in our country. Similarly, we have had our success stories in Space, Atomic Energy, some other areas but inspite of all these success stories, we continue to remain concerned about poverty. Some of

a national shame for all of us that 250 thousand of our children get Polio in 1986-87 inspite of all our technological capabilities. Inspite of all our knowledge, we have not been able to address some of these key issues, in our Society. Our success stories, though few, ought to give us a lesson to tackle our future programmes. As you get out of the colleges and are ready to tackle the practical world, you will find that the world is quite

Convocation

these successes have not been able to reach 300 million people who are below the poverty line. We have not been able to make a dent to our satisfaction in improving standards of living for millions and millions of our countrymen.

We had in 1987-88 National Missions on Drinking Water, Immunization and Literacy. It is

different from what you have been used to on Campus. It is going to be very competitive, it is not going to be very real in terms of what you have had been experiencing. To some extent it is going to be cut throat, to some extent it is going to be wide open. It is going to be rigid at the same time it will have room for you to function. This

world of tomorrow is waiting for technological solutions. Not to say that the technology is the only answer to handling our problems but since we are talking about technology, we are at an Institute of Technology, we have to focus on technology and not on politics and social consciousness. Political framework, motivation, mobilisation of resources, are all going to play an important role. However, two or three technologies of tomorrow will definitely shape the future we are going to have for ourselves and for our children. Biotechnology is one which will have far reaching implications in agriculture, health, environment, water so on and so forth. Another one is information which will again have far reaching implications in improving productivity and efficiency, in linking variety of services as major infrastructure of tomorrow and hopefully, information would be an agent of social transformation. Energy, alternate energy, is going to be equally critical. Today we are looking to solar energy as the ultimate answer. We still don't have the solutions and the world is waiting for you to explore the answer to many of the problems, we have not been able to find. These kind of technological scenarios will have to be based on self-reliance where you begin to do your own thing, you begin to find answers based on what we need in this country and you begin to create jobs as opposed to take jobs from people. During my informal interactions with students, I find that the major concern has been jobs. "Now that I have graduated what am I going to do? Where am I going to find the jobs?" Some leave for foreign countries in an effort to explore unknown abroad, some stay at home, some continue to study, some work for private companies, some look for Government shelters,

some very few in fact, become entrepreneurs. What we need in our system is more of our people who would create jobs as opposed to take jobs. As you come out of the University environment your options are either hard options, or soft options. Soft option is what everyone goes for. Hard option is one which requires you to create jobs and not take something away from somebody. In these kinds of technologies that I mentioned earlier, lot is to be explored. Innovation is waiting for you to be there. Innovation is waiting for you to explore lot of new ideas, new products, new services suitable to our needs, suitable to our environment and badly needed for our people, badly needed to provide basic infrastructure whether it is water, health services, shelter, clothing, food or whatever and also badly needed to line up scenario for the next 25-30 years to come. The work environment is going to be your biggest bottleneck.

As you go into the work environment, you will find that the systems are very hierarchical and you are used to an egalitarian system in friendly environment. Though you had experience of hierarchy at home, to some extent experience of hierarchy at the University with your professors and all but to a larger extent in your friends circle you have had egalitarian system. All of a sudden in the work environment you will find absence of egalitarian environment. You will be puzzled by the hierarchical system which will demand certain respect, certain discipline from you which itself would be detrimental to the progress that you are going to plan for yourself. So you need to go to all these organisations as change agents. You cannot go in as normal input into the system which

is already designed and you are going to fit in. You must go in as change agents for change which is geared towards tomorrow. You must create new work environment, new work standards, new work ethics, new work ethos, only after that kind of concern, you will be able to make a contribution. You are coming out very fresh, open, sincere, honest, if you are not careful in five years, you will be corrupt. Your minds would be corrupt and you won't be able to think the way you are thinking today. It won't take more than five years in the system we have for you to lose your initiative and I urge you to be on guard every minute. I urge you to be on guard every opportunity you get to make sure that you remain change agent. Your success is going to depend on your ability to remain as a change agent with fresh mind and fresh thinking. As you begin to get sucked into the system, you will begin to lose the strength you have. You begin to lose the contribution you will be able to make. I know these are some heavy words, heavy advices. I am not here to advise you. I am here to share with you my concern. In the system we have don't complain. Complaints don't do anything. You will have road blocks after road blocks, you will have bureaucratic road blocks, you will have political road blocks, you will have financial road blocks, you will have road blocks from the family, friends. Road blocks are there for you to solve. Unless and until you take the initiative and begin to work in the existing environment, you will not be able to appreciate the challenge ahead of you. You will always have financial constraints in whatever you are trying to do. The day we will not have financial constraints we will cease to remain a developing society. Every sector you go

in, every job you will undertake, you will have financial constraints. You will have to learn to live with it. This is going to be a way of life for you for next 25 years to come at least.

The system which is based on patronage, you will damn and you will want to change it based on the performance and the system will react. You will have to be tuned to the patronage on one hand to move forward with the performance criteria. You are as change agent going to show the system what performance is all about.

We look to you as a society to help us give new direction. We look to you to set new standards, new path, new goals as a generation. It is your generation that is going to make the difference. I would like to close by saying that there are lots of challenges ahead of you. At the same time there are lots of roadblocks ahead of you. Don't get discouraged. World is tough but I know you can solve it. We have great deal of confidence in you based on what you have achieved on Campus and based on what you are going to achieve in future for all of us. We need your desire, burning desire to make a contribution. We need your energy, we want to channelise your energies to something fruitful, something meaningful for all of us. You must focus on self-reliance. You must focus on being a change agent. The future world that we all live in will depend on how you are conscious of your contributions, cognisant of the fact that your contribution today will shape the future for you and for your children. We look to you for help and with confidence, we wish you all the luck in the future. We are here to support you but you have to make it happen. □

International Workshop on 'Future Studies'

A 10-day International Workshop on 'Future Studies' was organised at Inter-University Centre for Postgraduate Studies, Dubrovnik, Yugoslavia by the World Federation of Future Studies (WFFS) from March 28 to April 8, 1988. Over 25 academicians, researchers and government officials from Belgium, Bulgaria, Denmark, Ethiopia, Finland, Holland, Hungary, France, Germany, India, Italy, Mexico, Norway, Poland, Sweden, Switzerland, U.K., USA and Yugoslavia participated in the workshop. Professor Jim Dator, Secretary General (WFFS) of University of Hawaii, conducted the workshop.

The major objective of the workshop was to sensitize the researchers and policy makers about the concern for the well being of the future generations who are not participating in the decision making process and whose interests are not properly protected in the developmental activities of the present generations. The workshop was therefore geared to stimulate thinking among the masses to facilitate change in attitude towards meeting the future challenges. To achieve this objective, a multi-dimensional approach comprising lectures, group discussions, panel discussions and brain storming sessions was pursued. The deliberations generated a fund of ideas for scanning of the futures scenario, the search for the alternative action plans and implementation strategies to be adopted and executed by the policy planners throughout the world. The exercises in futures scenario building are essential for a long term perspective planning for an integrated socio-cultural and econo-

mie development of a country. In this context, the role of education in general and higher education and research in particular, is of crucial importance from the points of view of both moulding the attitude of people to change and shaping the future in desirable direction as well as designing appropriate policy instruments to attain the desired goals.

The essence of future oriented education and policy formulation lies in the fact that whatever we do today, by way of allocation of physical and financial resources, innovation and/or choice of technology, re-organisation of social activities, and reorientation of regulatory measures, have important implications for the social and economic well being of the people in future. It is therefore imperative to make a critical and objective assessment of the strengths and weaknesses of various national systems and discern the patterns of change so as to ensure that the developmental efforts are adequate and in the right direction.

The courses in future studies or futurology provide the framework and a rational approach to scan and map out the future course of action so as to improve upon the socio-cultural and economic environment and to lay the foundation for creating a prosperous and just society capable of contributing to world civilization, culture and knowledge. The realization of such goals is however not easy since it is difficult to carry out experiments about future or accurately make a quantitative measure of such aspects that have not occurred as yet. Nevertheless, it is feasible to foresee and identify

a number of alternative and possible futures on the basis of objective analysis of phenomena of changes such as social, cultural, economic and ethical values, long term policies for development, statutory and legal regulations for harmonious social behavior and action, etc. Such factors are conducive to judging possibilities that are likely to occur. Studies in future are thus a powerful planning tool. Its application gives vital clues to assessing the performance and results of certain policy instruments in the foreseeable future. Futurology also helps in identifying future opportunities and judge in advance, the likely future threats. The identification of such future events provides long term perspective on economic and social development and provide the basis for the planners to avoid future threats and to explore new opportunities for protecting the interests of future generations.

The workshop discussed in detail the methodologies that are employed for scanning future. As future studies are interdisciplinary subjects, a number of approaches can be made use of. Research techniques are drawn from physical, statistical, mathematical and social sciences disciplines to build quantitative and qualitative future scenarios for sectoral development. There is hardly any acceptable research technique which can be employed uniformly among various countries having varying socio-cultural milieu and stages of economic and scientific developments. The participants were however agreed about the prospects of development in research activities pertaining to future studies everywhere. With the continuing research efforts of educationists, scientists and social scientists especially the members of the World Federation on Future Studies, futurology

would emerge as an important subject of study. The workshop emphasised the need for orienting all the developmental policies from the futuristic viewpoints, lest the attempts to underscore short term gains impinge upon the long term gains of future generations who are not currently participating in the decision making process of development for protecting their interests.

The workshop urged upon the community of academicians, policy planners and researchers to generate new ideas, search new options, create and develop alternative and/or redesign the old institutions and modify existing practices so that human society could be continuously improved and strengthened.

Of the various themes discussed at the workshop, some of the important ones are Future studies and everyday life in 21st century, From Information Society to Interaction Society, Futures Labs, Everyday life in East European Countries, From content to Form—A cultural society, General Evolutionary Impact on everyday life, The Technology of the Future, Girls and Women in 21st Century, and the Role of Women in everyday life and the Future. Shri M.M. Ansari, Project Director, Research Cell, AIU made a presentation on 'The Indian scenario for 2000 AD'. Some of the important conclusions that emerged in the presentation are as follows :

(i) Even though India has been able to produce more foodgrains than its total population actually requires, as our buffer stocks would suggest, about 40 per cent of people are still below the poverty line and the absolute number of poor people are continuously rising at the rate of about 3.7 million per annum. India would continue to

produce foodstuff in 21st century more than what its people require but in the absence of efficient and equitable measures for providing employment to poor and for distribution of foodgrains, it will have more people below the poverty line in 2001 than it had at the time of independence. This indeed calls for multidimensional approach to deal with the complex problem of poverty so as to begin the new era of 21st century with the properly fed people.

(ii) The growing number of illiterates is another serious concern for the planners in India. While the literacy ratio has improved from 17 per cent in 1951 to about 40 per cent in 1985, the absolute number of illiterates has increased from 300 million to 450 million during the same period. It is likely that of the total illiterates population in the world, more than 50 per cent would be found in India by the year 2001. This phenomenon of growing illiteracy has occurred in spite of the constitutional commitment to universalise elementary education by 1960, which has been re-set for the year 1990. On the present reckoning of educational policies, and more importantly, the implementation strategies, there is seemingly no hope for realizing 100 per cent literacy even by 2010 A.D. This quantitative assessment calls for vigorous attempts to liquidate illiteracy.

(iii) On the basis of projected rates of growth of population at 1.8 per cent and GNP at 5 per cent, per capita income of India would be less than 400 US dollars by 2000 AD which would be much lower than many developing countries. As the twin problems of poverty and illiteracy have augmenting effect on each other, there is need to launch integrated programmes

to tackle these problems simultaneously. It hardly needs to be pointed out that simultaneous existence of poverty and illiteracy has been causing considerable wastage of physical and financial resources in the Indian economy. Even though the capital formation in the Indian economy has been at the rate of 5.5 per cent over the last three decades, the increase in per capita GNP was less than 1.5 per cent per annum. One of the attributable reasons for the low rate of increase in income is that the capital investments have been managed and administered largely by illiterates, semi skilled and inadequately trained personnel. Even now, more than 70 per cent of labour force in Indian economy comprised illiterates and unskilled population. Such factors generate inefficiency and lower the level of productivity which in turn dampen growth of the economy. It is for this reason that capital output ratio has increased from 3.5 : 1 in the 11th and 11th Five Year Plans to 6 : 1 in the 11th Plan. This means that in order to generate one rupee the amount of investments has increased from 3.5 rupees to 6 rupees over the plan periods. The implication for education system is to provide for skilled and trained manpower so as to increase productivity and production in order to accelerate the pace of development. This is indeed a challenging task for the Indian education system.

(iv) India is a relatively young country as about 42 per cent of its population is below 35 years. With the growing base of elementary and secondary education, the demand for higher education which is already very high, will rise in future even at a faster rate than is currently observed. It would therefore require expansion and diversification of educational institutions

so as to meet the growing demand for higher education. In the absence of adequate allocation of financial resources for infrastructure facilities, as has been the case in the past, the problem of enhancing the quality and improving the relevance of higher education might aggravate. As a consequence the number of university graduates seeking employment would multiply and increase considerably by the year 2001 since the projected slow pace of development of the economy would not be able to absorb them. If this situation occurs, the incidence of wastage of resources on account of both investments on education of unemployed graduates and their maintenance at subsistence level would be substantial as they would hardly contribute to income generation process of national development. Rather, the growing frustration among them might increase the social tension, affecting thereby, political stability in the country. It follows, that the task before the Indian higher education system is indeed stupendous since the system is responsible for identifying socio-economic problems and suggesting solutions thereof for speedy development of the country. The plans to tackle the emerging problems should begin now, lest the dimensions of social unrest should acquire unmanageable proportions.

(v) In the context of responsibilities of higher education towards social and economic needs of the country, the issues pertaining to growing urbanization and pollution hazards, environmental degradation, rural-urban socio-economic disparities, increasing requirements for health care and shelter were also discussed. Keeping in view the inherent strength of Indian culture and philosophy of pursuing the path of development through mixed economic system, democratic

and federal polity and secular traditions, it was concluded on an optimistic note that on realization of existing potentialities India would emerge a strong society which would continue to occupy a place of prestige in the community of nations and contribute to the world civilization. The system of higher education and research has however great deal to do in this direction especially by way of providing a set of policy options and alternatives to development.

The workshop expressed an

urgent need to orient and introduce relevant courses on future studies at the graduate and post-graduate levels in every country. Institutions of higher learning should be encouraged to organise seminars/conferences and training programmes on future studies in various subject areas so as not only to acquaint the participants about the imperative need for promoting studies in future but also training adequate number of teachers and researchers for undertaking similar tasks in future. □

Financial Administration in Universities

The Association of Indian Universities in collaboration with the University Grants Commission and the University of Poona, organised a Group Discussion-Orientation Programme on Financial Administration in Universities from June 6-10, 1988 at Pune.

Dr. D.M. Nanjundappa, Vice-Chancellor, Bangalore University inaugurated the discussion. He briefly outlined the various constraints of university finance and its administration. He also highlighted the lack of resources and funds for the development of universities as also the lack of a rational framework for financial administration. He suggested that there should be a scientific link up between financial administration and the university bodies so that there is an integrated result-oriented financial administration. He also referred to the vagaries of State-University financial relations in the determination of grants. He pleaded for better University Grants Commission and University relations. He said that the grants should be regularly released to educational institutions and financial benefits should be equally shared by the universities. He wanted the universities to explore alternative sources of funding. He pleaded for the creation of endowments and liberal tax concessions for educational purposes.

Shri J. Veera Raghavan, Secretary in the Ministry of Human Resource Development, Govt. of India, in his valedictory address, emphasized the role of Finance Officers in spending as well as raising of resources. He was of the view that the financial management procedures should be flexible and conducive to the efficient functioning of the universities. The institutional objectives should be achieved at all costs. The managers of finance have to be watchdogs of public funds and at the same time should boost the morale of the Faculty.

Dr. V.G. Bhide, Vice-Chancellor of University of Poona in his Presidential Address said that there should be no disparity in the funding of the universities. Government should encourage the industrialists to provide additional financial resources. He referred to the establishment of the Science and Technology Parks and the Consultancy Services rendered by the faculty members.

The meeting of 43 Finance Officers from different Central and State Universities gave an opportunity to them to interact with each other and share their experiences. The Guest Speakers spoke on different topics ranging from financial administration, managerial effectiveness, need for computerization, budgetary reforms and zero based budgeting, effective utilization of resources etc., which were followed by lively and in-depth discussions. □

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/Officer to be contacted
June 27-July 8, 1988	Short-term Intensive Training Programme on Abstracting & Indexing	To train the participants in the application of abstracting and indexing methods and construction of an indexing language (Thesaurus).	National Institute of Small Industry Extension Training, Hyderabad.	Mrs. K. Subhashini, Course Director, NISIET, Yousufguda, Hyderabad-500045
July, 12-14 1988	International Symposium on Recent Advances in Male Reproduction	The Symposium will focus on Molecular Biology of Inhibin, Androgen Binding, Protein Regulation of Fertility, Peptides in Testis Function and Steroidogenesis in Testis.	University of Hyderabad in collaboration with the Indian Society of Andrology.	Prof. P.R.K. Reddy, School of Life Sciences, University of Hyderabad, Hyderabad 500134
September 26-28 1988	International Conference on Welding Technology in Developing Countries	To provide an opportunity to scientists and technologists from developing and advanced countries to share their experiences in the area of Welding Technology.	University of Roorkee, Roorkee	Prof. P.C. Gupta, Organising Secretary, International Conference on Welding Technology in Developing Countries, Department of Mech. & Ind. Engg., University of Roorkee, Roorkee-247667
October 27-29, 1988	National Seminar on Statistics in Medicine, Health and Nutrition.	To discuss Data-Base and Analysis in Health and Nutrition—Present and Future	Department of Statistics, National Institute of Nutrition, Hyderabad.	Dr. K. Viweswara Rao, Organising Secretary, National Seminar on Statistics in Medicine, Health and Nutrition, Department of Statistics, National Institute of Nutrition, Indian Council of Medical Research, Jamia Osmania, Hyderabad-500 007
December 13 17, 1988	International Seminar on Education and Training in Water Resources in Developing countries.	To assess the requirements of manpower, education and training in Water Resources Sector upto the year 2025 in the developing countries.	Central Board of Irrigation and Power, New Delhi.	Mrs. C.V.J. Varma, Organising Secretary International Seminar on Education and Training, Central Board of Irrigation and Power, Malcha Marg, Chanakypuri, New Delhi-110021
Dec. 15-17, 1988	National Conference on Fluid Mechanics and Fluid Power	To provide a forum for exchange of information on topics in fluid mechanics and design, research and development activities in areas like power generation, aerodynamics, fluidics, biomechanics, etc.	Harcourt Butler Technological Institute, Kanpur.	Dr. N.L. Kachhara, Organising Secretary, 16th National Conference on Fluid Mechanics and Fluid Power, Mechanical Engineering Department, Harcourt Butler Technological Institute, Kanpur-208002

Folklore Centre at Telugu Varsity

The Telugu University is planning to set up an exclusive centre for folklore, to study and conduct research in folk literature and folk arts along with other genres like lyrics, games, beliefs and customs. This was disclosed by Prof T Donappa VC while delivering the presidential address at the inauguration of International Workshop Series on Folkloristics. He said that the University would further develop an archives in folklore to preserve folklore texts by utilising modern technology like audio and video tapes. In addition, the University would also equip scholars with modern tools of research which had been tested elsewhere with a view to give a fillip to folkloristic research in the country.

Inaugurating the workshop Dr R V Vaidyanatha Ayyar Principal Secretary Education opined that cultural dissemination in the country would be possible only through integration of folkloristics with modern electronic media. He felt that effective communication with the rural masses could be achieved through the usage of folkloristics.

Mr Justice P Jaganmohan Reddy former Supreme Court Judge while emphasising the importance of folkloristics said that folklore material formed the basis for building up the cultural history of mankind. He said that the changes in man's behaviour, beliefs and customs since times immemorial had been recorded in folklore through songs, tales, myths, riddles and proverbs. By studying this discipline one can extract a clear picture of the culture of the Universal man, he added.

Justice Jaganmohan Reddy

pointed out that folkloristics was the study of ancient observations, customs, notions, myths, beliefs, superstitions and prejudices among common people. But today the radio and television coupled with urbanisation and industrialisation has shifted the centre from villages and rural areas to common folks in the urban elite.

Summer Institute in Asian Studies

The SNDT Women's University in collaboration with the United States Educational Foundation in India (USFEI) has been conducting Summer Institutes in Asian Studies Programme since 1976 for the visiting American school and college teachers. The 8th Summer Institute is being organised from 25th June to 30th July 1988 for a group of teachers from the New York University.

The Summer Institute will give an opportunity to American teachers to know India and her civilization at closer quarters yet in an objective manner. The purpose of the programme is to help these teachers prepare educational projects for teaching history and culture of India in American schools. The experience and the knowledge earned at this Summer Institute would help teachers in developing curriculum for Asian (Indian) Studies Programme in their country.

The course at the Summer Institute consists of a series of lectures, demonstrations, discussions and field trips. The teacher trainees at this Institute will have an opportunity to hear experts from different fields on various aspects of Indian life—History,

Culture, Arts, Literature, Economy, Politics, Social Structure, Status of Women, etc. While organizing the programme, care is taken to focus on recent developments in India, with a view to provide the teacher-trainees an insight into contemporary life and society here.

The teacher participants in this programme shall have access to library facilities and services at the Women's University Library. A Book Shop India is being organised by the University Library on this occasion. Consultation with faculty members of various departments of the Women's University is made available to the teachers for their guidance of their individual educational projects related to society and culture of India.

Dr Dhairyabala Vora is directing the programme and Dr Lata Murugkar is assisting her as the Co-Director.

AP Varsities Plan New Engg Courses

The Andhra Pradesh Government proposes to start full time B Tech Degree Courses exclusively for diploma holders at the existing polytechnics in Kakimada, Hyderabad and Ananthapur. This was announced by the State Technical Education Minister Mr D Satyanaravana. He said that an expert committee under the chairmanship of Prof Koteswar Rao, Principal Regional Engineering College Warangal was being constituted to examine the feasibility of starting 3-year full time B Tech Degree Courses in the three polytechnics. The study would be made with reference to the norms and conditions stipulated by the All India Council for Technical Education.

The Minister said that the

Vice-Chancellors of different Universities, with whom he had a meeting recently, had agreed to issue notification for admission into 4-year part-time Degree Course in University colleges and 3-year full time degree course in private engineering colleges. The diploma holders would be entitled for admission into these courses. The admission notification would be issued shortly.

The Vice-Chancellors had also agreed to enhance seats at the rate of 10 in each branch of civil, mechanical and electrical engineering. They also agreed to examine the need to enhance the seats in electronics and communications engineering also.

The Vice-Chancellors Meet has also agreed to examine starting of correspondence - cum - contact Degree courses in chemical engineering and computer engineering in Andhra University and Metallurgy in Regional Engineering College, Warangal.

The Vice-Chancellor of Jawaharlal Nehru Technological University agreed to increase seats in correspondence - cum - contract Degree Courses of electrical, mechanical, civil, and electronics and communications engineering courses offered by JNTU.

It was also agreed to examine the scope of admitting non-engineering diploma holders in Diploma in Commerce and Computer practice, dress-making and costume design, diploma in domestic science, diploma in hotel management, catering and food technology, etc. into B.A., B.Sc., and B.Com.

Seminar on Commerce Education

A two-day Seminar on Commerce Education and Accounting

Profession was organised at the Kurukshetra University on May 12-13 under the joint auspices of Department of Commerce and the Institute of Chartered Accountants of India, New Delhi. About 100 teachers of commerce from various colleges of Haryana and forty teachers from commerce faculties from different universities attended the seminar. The topics discussed at the seminar included (i) Commerce Education at undergraduate level, (ii) New Developments in Accounting, (iii) Coordination between the Institute of Chartered Accountants of India and Universities, and (iv) Accounting standards.

New Courses at Kurukshetra Varsity

The Kurukshetra University proposes to introduce a three year degree course in Physical Education, Adult Education and Sports in its affiliated colleges from the current session 1988-89. A two-year course in M.Sc. (Electronics) is also proposed to be started from the next academic session.

The university also propose to start Postgraduate Departments in Tourism, Geology and Anthropology from the ensuing session. Diplomas in Personnel Management and Marketing will also be started in the university and in some affiliated colleges.

Kuvempu Varsity to Start PG Courses

Kuvempu University proposes to start postgraduate courses in English, History and Archaeology, Political Science and Sociology, Theoretical Physics, Electronics, Zoology, Botany and Ecology from the academic year 1988-89 on its new Shankaran Ghatta campus at B.R. Project.

According to Dr. Shantinath Desai, Vice-Chancellor, the Mysore University would conduct major examinations on behalf of Kuvempu University during the next five years but postgraduate and engineering (semester system) examinations would be conducted by Kuvempu University from the current academic year.

Andhra Varsity Offers New Courses

The Andhra University has decided to introduce three New courses, viz., BE (Naval Architecture), M.Tech (Remote Sensing) and M.E. (Electronics and Instrumentation) from the current academic session. This was revealed by Mr. Gopalakrishna Reddy, Registrar, recently in Visakhapatnam.

Central Aid for Tribal Research

Prof. S. Agesthalingam, VC, Tamil University, said that the Union Government had sanctioned Rs. two crore for establishing a museum and providing other facilities at the university's tribal research centre. He made this announcement while inaugurating a summer course on "interdisciplinary research methodology in study of tribal communities". He said the government had sanctioned Rs. one crore for a period of five years to the university for research work.

Thirty four persons, including six women are participating in the 41-day course, which is being conducted by the Tamil University under the sponsorship of the University Grants Commission.

News from Agril. Varsities

Workshop on Dryland Agriculture

The Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad in collaboration with Sher-e-Kashmir University of Agricultural Sciences and Technology, organised XII Workshop on All India Coordinated Research Project for Dryland Agriculture at Srinagar from 25th-29th May 1988. Scientists from various centres of CRIDA, Hyderabad (ICAR), Agricultural Universities and ICRISAT interacted and presented their work, besides, evolving futuristic plans for overcoming effects of drought conditions. They also drew out contingency plans to mitigate effects of recent drought in dryland areas based on zones under specific conditions of country.

Inaugurating the workshop, Dr. Farooq Abdullah, Hon'ble Chief Minister of Jammu and Kashmir State stressed upon scientists to work whole heartedly irrespective of caste, colour and religion for the betterment of our 80% population living in villages. He was critical that despite huge expenses on development programmes, country has not made cognisable breakthrough in agriculture. He said we were still dependent on 'Monsoons' while a lot of money has been sunk in major and medium irrigation projects since the commencement of planned development in India. He stressed the need for long term measures in mitigating effects of drought by developing economically feasible technology.

Prof. A. Ahmad, Vice-Chancel-

lor, of Sher-e-Kashmir University of Agricultural Sciences and Technology stressed the need for development of dryland agriculture based on farming system which should include forestry, horticulture, fodder, animal husbandry besides the coarse grain instead of the present trend towards development of crops requiring more water. He emphasized the need of sincerity and devotion on the part of scientists and said that they should not be carried away in today's society infested with economic and political ills.

Founding-father of dryland agricultural concept in the country, Dr. J.S. Kanwar, currently Professor Emeritus ICRISAT and former Deputy Director General, ICAR also participated in the Workshop. His presence served as an incentive to participating scientists whose achievements were highlighted at the Workshop.

During the 5-day deliberations of the workshop it was pointed out that 31 model watersheds have been developed in various parts of the country that had proved effective. Besides, foreign collaboration has also become handy for betterment of agriculture management in dryland areas. Progress made under Operation Research Projects and Watersheds has indicated that 14 watersheds out of 31 established so far, have already achieved their targets. It was heartening to note that in some of the severely drought affected areas, 60-80% area could be sown in watersheds located in such regions

whereas 50-80% cultivated area was left unsown in adjacent non-project areas.

Several thrust areas were identified and it was suggested that each centre in the dryland area will concentrate on such programmes besides their normal work on priority basis. First amongst important programmes is characterisation of environment of each centre of region i.e. collection of climatic information for last 30 years or more, its consolidation, analysis and evaluation, besides, characterisation of soils of the centre. This will serve as a guiding factor for a zone represented by that particular centre. Next priority has been attached to critical analysis of data already available at CRIDA and its documentation. These two activities are essential for developing future research in a specific zone.

Under research priorities prime importance is given to formulate and implement long term studies to mitigate drought effects, selecting varieties of crops, efficient use of fertilizers, dry seeding, harvesting of water or life saving water utilisation and recycling of water at all centres. It was also decided to study rainwater management involving land treatment for moisture conservation. It will also include study of vegetative barriers, though this study has been taken-up about 2 years ago in some centres but more centres will undertake such study.

Another aspect, which is considered for implementation, is that of management of cropping system. It has been observed that there is monocrop system usually practised in the drylands but double cropping and inter-cropping systems have to be developed depending upon resources of each

region. Studies are to be directed towards development of technology for establishing second crop to ensure success of subsequent crop which will include fertilizer management, weed control in double cropping systems. In the inter-cropping systems research will be directed towards weed control, varietal compatibility of intercrops and efficient use of fertilizers. Stress will be laid for development of fodder based cropping systems so that good fodder will be available for cattle during drought conditions.

Feasibility of developing agroforestry system in dryland agriculture has also to be looked into and such trees could be located which can grow in symbiosis with crops besides providing land cover and improving ecological environment. Development of horticulture and management of cattle resources based on agropastoral system has also to be considered in the dryland zones will undertake such research programmes.

In the plenary session, Prof. A. Ahmad, who presided, observed that development of drylands should also keep in mind development of eco system and change of food habits in these regions.

New Grapes Hybrids

The Indian Agricultural Research Institute (IARI), New Delhi, has evolved new hybrids of grapes, which can give a fillip to grape cultivation in North India. The new hybrids not only produce early ripening berries of uniform maturity and excellent quality for table purposes, but also have a good potential and can bring about a "significant improvement" in the grape processing industry.

Dr. A.M. Michael, Director,

IARI, said the new grapes hybrids were selected keeping in view their economical cultivation and the socio-economic condition of growers in the North.

Solar Powered Cargo Vehicle

Two engineering students of Kerala University are reported to have developed a prototype solar-powered cargo vehicle suitable for airport and industrial use.

"Suraya Vahan", as the vehicle is called, was designed and built by Sushil Eapen and Vikas Khitha of the Trivandrum Engineering College with the assistance of the solar engineering group of the Electronics Research and Development Centre. It is claimed to be the first solar vehicle in the country intended to take cargo.

The present model is a three-wheeled vehicle, able to carry about two tonnes of cargo. The eight photovoltaic panels form a canopy over the luggage area. In bright sunlight, these panels deliver about 330 watts. The panels would then need four hours to recharge the batteries for every hour the vehicle was used. If the solar panels could not function, the four standard truck batteries, fully-charged, would be able to run the vehicle for upto two hours, it would then have a range of around 20 km. A.D.C. series motor, drawing power from the batteries, drives the front wheel which is also used for steering.

The vehicle was designed to move cargo at airports. With solid rubber tyres and no suspension, it needs smooth surfaces to operate. Since the vehicle will be out on the tarmac where it will get sunshine, the batteries will be charged automatically. With a maximum

speed of ten km per hour the vehicle could be used even in factories for moving cargo.

Electric motors score over internal combustion engines in being far more silent and doing away with smoke and fumes. The electric motor's higher starting torque makes it suitable for start-stop conditions.

According to Eapen and Khitha the vehicle was made—after six months of thought and one year of fabrication—for the final semester project. The Department of Science, Technology and Environment had given a grant of Rs. 23,750. But that was not enough since the vehicle costs over Rs. 1 lakh to make. ANERT supplied the solar panels which cost about Rs. 28,000, the ERDC gave an old industrial truck which was souped up to provide the basic frame. Batteries were another high cost item, coming to about Rs. 15,000.

They said its present efficiency was probably not enough to make it a commercial proposition. But the efficiency could be improved in a variety of ways. Better solar panels (imported ones, for instance, had much higher energy conversion efficiency than the indigenous ones) was one such way to improve. If lighter batteries could be used, the vehicle itself could be made a great deal lighter and, consequently, the energy consumption, much less. Micro-processor or thyristor speed control could be substituted for the resistor control used in this vehicle, they added.

New Crop Varieties

Haryana Agricultural University scientists are reported to have evolved three new varieties of bajra, cotton and raya.

The new bajra, variety—HHB 60 matures in 76 days and is tolerant to downy mildew disease. Its yield is 9 to 10 per cent more than the HHB 50 variety released sometime ago.

The cotton variety HS 45 (American cotton) is suitable for early sowing. It matures in about 190 days. The yield of this variety too is 10 per cent more than other similar varieties now popular among farmers.

The raya variety RH 8113 has a maturity period of 150 days. The oil content of the new variety is also slightly better than the existing varieties. It is also resistant to several diseases.

workshops and special meetings in the Third World

Scientific institutions and organizations in Third World countries organizing meetings in these countries may apply for grants to cover the travelling expenses of lecturers from abroad and/or young scientists from the region. Likewise, organizers of international conferences being held in developing countries may apply for grants to assist with travelling expenses of eminent scientists from developing countries, the expenses of principal speakers who are unable to obtain sufficient funds from other sources, or travelling expenses for young promising scientists from the region. Special consideration is accorded to meetings that are likely to benefit the scientific community in developing countries and to promote regional and international cooperation in developing science and its application to the problems of the Third World.

Last date for receipt of requests on prescribed proforma for meetings to be held during July-December 1989, is 1 December 1988. *Application forms and other details can be had from The Executive Secretary, The Third World Academy of Sciences c/o International Centre for Theoretical Physics (ICTP) P.O. Box 586-34100 Trieste—Italy.*

News from Abroad

Proposals for Cooperative Projects

The Centre for Art, Science and Technology, a non-profit research and educational organization in Canada, is interested in cooperative projects with Indian researchers which might be eligible for support by the International Development Research Centre (IDRC) of the Canadian Government. The IDRC promotes scientific and technical research projects conceived and carried out by Third World researchers including collaborations between developing countries and Canadian private organizations.

The IDRC's funding mechanism is based upon a process which involves evaluation procedures of research proposals presented by institutions in the Third World. The fields which are eligible for financial and professional support include agriculture, health, social sciences, information sciences, earth and engineering, sciences, training and implementation of research results.

Further information can be had from Dr. P.Z. Hartal, Director, Center for Art, Science and Technology, P.O. Box 1012, St. Laurent, Montreal (Quebec) Canada, H4L 4W3.

Grants for Scientific Meetings

The Third World Academy of Sciences (TWAS) entertains requests for grants to support scientific meetings to be held in developing countries in the fields of Biological Sciences, Chemical Sciences, and Geological Sciences. The grants are made to encourage the organization of regional and international scientific conferences,

UNIVERSITY-INDUSTRY LINKAGE

(Continued from page 6)

fruitfully than in the present straitjacket system of affiliation. No doubt, more funds will be needed by the institutions to implement innovations and new programmes and this can be taken care of largely by the national apex bodies and partly by the industry and commerce.

But what an institution of higher education needs most is interaction, collaboration and formal linkage with the community around and other institutions, as well as employers and professionals in the field. They should change their perspective and style. The great philosopher, A.N. Whitehead had asserted "There is only one subject matter for education and that is life in all its manifestations". (The Aims of Education and other essays). The institutions of higher education should extend their field of activity and end their 'splendid isolation' from the industry and commerce. This would help them play their due role as agents of change in the Indian society. □

NATIONAL INSTITUTE OF HYDROLOGY

JAL VIGYAN BHAWAN, ROORKEE

Advt. No. 7/88-NIH (Admn.)

Dated : 9th June, 1988

Applications are invited for the following posts in National Institute of Hydrology (A Govt. of India Society) Roorkee from Indian Nationals satisfying qualifications and experience laid down therefor :

1. SCIENTIST 'E' : 5 posts in the areas of : **Conjunctive Use--1 Post, Hydrological Investigation-1 Post, Surface Water Hydrology-3 Posts :** (likely to be increased). **Scale of Pay :** Rs. 3700-125-4700-150-5000. Total emoluments at the initial of the scale is Rs. 4330 excluding H.R.A.

Age : Below 45 years.

Qualifications : 1. High Academic qualifications in Civil Engineering or Agricultural Engineering with specialisation in Hydrology or Water Resources, or equivalent OR High academic qualifications in Geology/Geophysics with specialisation in Hydrological investigations. 2. Ph D. Degrees desirable. 3. Experience in Field Problems, Corporate membership in professional institutions desirable. 4. About 7 years experience in teaching, research, design or planning. 5. Proven ability of conducting and guiding research.

NOTE : 1. Persons selected can be appointed on deputation basis also.

2. SCIENTIST 'C' : 5 posts in the following areas: **1. Surface Water Hydrology—3 posts. 2. Remote Sensing Application—1 post. 3. Drought Studies—1 post. Scale of Pay :** Rs. 3000-100-3500-125-4500. Total emoluments at the initial of the scale is Rs. 3540 excluding H.R.A.

Age : Below 40 years.

Qualifications: For areas (1 & 3): SURFACE WATER HYDROLOGY/DROUGHT STUDIES : 1. A Bachelor's degree in Civil Engg. with minimum of 60% marks or 7.0/10.0 CPI or equivalent OR Master's degree with specialisation in Water Resources/Hydraulics Engg./Hydrology, with minimum of 60% marks or 7.0/10.0 CPI or equivalent. 2. 5 years experience of Design/Teaching, research in institutions dealing with Water Resources Area.

For area (2): REMOTE SENSING APPLICATION:

1. A Bachelor's degree in Civil Engg. with minimum of 60% marks or 7.0/10.0 CPI or equivalent OR

Master's degree in Science with specialisation in Geology/Geophysics with remote sensing as a subject, with minimum of 60% marks or 7.0/10.0 CPI or equivalent. 2. 5 years experience of Design/Teaching, research in Institutions dealing with Water Resources Area.

Desirable : Ph.D. with Science/Engineering

NOTE: Persons selected can be appointed on deputation basis also.

The above mentioned posts carry usual allowances as admissible under the Central Government Rules. Age will be relaxable for persons already in service in the Institute and other Govt./Semi-Govt. Autonomous organisations as well as candidates belonging to SC/ST community, retrenched employees of Defence services and physically handicapped persons, as per rules of the Government of India.

Age will be determined as on 29.7.88.

Persons already employed in Govt./Semi-Govt./Autonomous Bodies should apply through proper channel. Application not forwarded through proper channel may not be considered.

Candidates applying for more than one post should use separate application form for each post and remit fees separately for each post.

Application forms may be obtained by 15.7.88 from Chief Administrative Officer, National Institute of Hydrology, Jal Vigyan Bhawan, Roorkee 247 667 (UP) by sending a self addressed envelope of the size 12 x 28 cms. Application form duly completed in duplicate with copies of all testimonials alongwith an application fee in the form of Indian Postal Orders of Rs. 8/- (SC/ST candidates are exempted from payment of fee) payable to the National Institute of Hydrology at the Roorkee University Post Office should reach the Chief Administrative Officer, National Institute of Hydrology, Jal Vigyan Bhawan, Roorkee-247 667 (UP) on or before 29.7.1988.

JOB LOCATION: ANYWHERE IN INDIA.

SW/NIH-2/88

FRANK AND FORTHRIGHT

Mishra, R.S. How I faced an invited trouble, (Lucknow) Prakashan Kendra, 1988, pp 143 Rs. 75/-.

G.B.K. Hooja*

The word 'trouble' seems to denote the state of universities in India. It is certainly not a coincidence that Amrik Singh called his memoirs relating to the Punjabi University, Patiala as 'Asking for Trouble: What it means to be Vice-Chancellor'. I agree with him when he says that a Vice-Chancellor's job is one of the most demanding ones in the country. Ministers, bureaucrats, heads of business organizations, newspapermen all have diverse pressures and demands upon them, but they have a range of powers and ability to provide patronage. In the case of a Vice-Chancellor, the demands are greater, but his capacity to deliver is tightly circumscribed or controlled. It is a nightmare to find solutions for the conflicting demands and interests of the various wings forming the family of the university, namely teachers, employees, students, parents, not to mention politicians, who hold the pursestrings. The latter, and even the members of the Senate and the Syndicate, says Dr. Singh, are seldom present when any of the refractory wings of the university chooses to exert pressure. It is the Vice-Chancellor who is on the anvil to face the agitated, the angry and the violating, and yet receives no danger pay.

Mishra, too, had his measure of troubles, which called all his tact, maturity, sobriety, gamefulness, sense of humour, gained during a long course of academic life, into play and enabled him not only to survive, but survive with satisfaction and happy memories, which are recorded in this small book with characteristic candour and sympathy.

The book consists of two parts. The first part consists of 12 chapters on 'Officers and other Functionaries', and the second part consisting of 19 chapters relates to general matters, such as teaching, research, admissions, examinations and re-examination, halls of residence, Teachers' Association, Students' Union, Karmachari Sangh, campus maintenance, Tagore Library, selection committees, University Court, Executive Council, Academic Council, etc. Thus there is not a facet of university life which has not fallen under the purview of his penetrating but sympathetic gaze. He served as the Vice-Chancellor of Lucknow University from 1982 to 1985. In order, therefore, to make his memoirs serve a useful purpose, he decided to concentrate more on the problems of Lucknow University and present suggestions for their solution. However, since the problems facing the university system all over India are similar, the solutions suggested by Dr. Mishra have a national relevance and may be considered with respect

by the managers of institutions of higher learning all over India.

Says Mishra, "Teachers form an integral part of university life. They are builders of nation and, therefore, should set an ideal before the students and the public. The students are their best judges and through their students, they are known in public at large, both for good or bad points. India had a tradition of respect for teachers. They were as much revered as parents or even as God... But all this is fast vanishing now. Having been a teacher for more than forty years, I have no hesitation in saying that the responsibility for this is more or less of the teachers themselves. It is for them to regain their respect by students and society."

As for his style of work, here is a vignette:

"As a regular habit, I got up quite early in the morning. After I joined LU, I used to sit in my verandah right from 6 in the morning doing self-study. I preferred to meet visitors after 10 in the morning, but some teachers used to come to me even at 0600 hrs, sometimes with purpose and sometimes without it. Some teachers would come with something in their mind but would simply sit and go without expressing it. Every visitor expressed himself as my greatest supporter and well-wisher. Some of them sincerely wished to guide me whereas others tried to misguide me. There were a few teachers who gave the impression to other teachers that they were my right hand and I did as they wanted me to do. Teachers who believed them, started dancing attendance on them. However, such teachers were soon disap-

*Former VC, Gurukula Kangri VV, Haridwar; 5, Abulfuzal Road, New Delhi-110 001.

pointed. With my long experience of different facets of university life in the DU, LU, AU, GU, JU, KU and BHU and a number of foreign universities, I soon realised how sincere a teacher was. But I encouraged meeting even insincere teachers because I could get a feedback from them in what was going on in different departments and offices. I could make out what they had in mind even when they were talking about differently. Though from morning to evening no time was mine or for my family, it was very rewarding to me."

This practice of accessibility and spirit of accommodation enabled him to manage the students equally effectively and affably. As the LU does not have a VC's residence, Mishra was allotted a room in the State Guest House to begin with. One evening when he returned to the GH after an official dinner, he saw 2 hearse cars standing on the road outside the GH. This set him having peculiar speculations. When he entered the gate, he saw about 100 youngmen squatting on the lawn. Realizing that they were waiting for him, he walked upto them. They were students of KGMC and hearse cars were easily and readily available to them. They had some examination problems. He called the Registrar and the Principal and had the matter sorted out. When he moved to 14, Kalidas Marg, the students of KGMC went there also twice at about midnight in hearse cars with their examination problems, which were duly sorted out. While going out, however, they carried his name-plate as a souvenir, mnes the learned academician. He also records :

"Before I moved to Kalidas

Marg I understand that I was being considered for a Type V quarter in the Raj Bhawan Officers Colony, where one of the former Vice-Chancellors of LU, Mr. Ashok Kumar Mustafa used to live. The residents of the colony objected to my being allotted the quarter, because they feared that if I lived there, the students would come in batches and in crowds and would disturb them. But now I am convinced that I would not have been a bad neighbour either because of my students or otherwise."

As may be anticipated, Mishra's reaction is typical of the man and his personality, mild, mellow, mature, although it may be noted in passing that matters have come to such a state that VCs are no more persona grata in good neighbourhoods. It goes to the credit of Mishra that LU had a number of events after several years, some after decades. Mention may be made of 3 of them. LU held a special convocation to confer the degree of Doctor of Literature (Honoris Causa) on Mr. Amadu Matar M-Bow, Director General of Unesco on Dec. 10, 1983. Then they had the annual session of ISCA, which was inaugurated by the President of India on Jan. 3, 1985. And the Convocation to confer the degrees, diplomas and medals of the exams of 1983 was addressed by the PM of India, Shri Rajiv Gandhi on March 23, 1985. In fact, the period between Dec. 10, 1983 and March 23, 1985 was celebrated as the Diamond Jubilee Year of LU, which was established in 1920-21. Mishra utilized this opportunity to concentrate on the academic side, as he found that the academic life in the University had received greatest set back. He encouraged seminars, symposia and colloquial talks in depts, besides debates and an Inter-University.

Drama Competition on 'Drinking and Drug Abuse'. The end of Mishra's tenure was climaxed by the celebration of the State level Youth Festival, Umang-85, in which 11 universities of the State participated.

In the Introduction to this book, Mishra refers to the Vice-Chancellor of a neighbouring state, who, while tendering his resignation had enumerated 3 qualities which a VC should possess, namely, (i) the brain of a monkey, (ii) the skin of a rhino, and (iii) the tongue of a parrot. The interested readers, the managers of the university system would do well to read this very frank and forthright account to find out how Mishra could continue for the full term in spite of the fact that he is not endowed with any of the above characteristics.

A welcome addition to the literature on higher education in India. May we hope that in the years to come many more of the tribes shall come forward to enrich this genre by recording their valuable experiences, bitter and/or sweet, in the field of higher learning, for the benefit of the policy-makers and system operators.

We Congratulate . . .

- (i) Dr. Chandan Badan Tewari who has taken over as Vice-Chancellor of the Meerut University.
- (ii) Dr. P. Selvie Das who has been appointed Vice-Chancellor of the University of Mysore.
- (iii) Dr. R.V. Ramakrishna who has been appointed Vice-Chancellor of the University of Agricultural Sciences, Bangalore.

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The Library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research scholars and students of education are welcome to use these resources. The Library is open from 9-00 a.m. to 5-30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian

RESEARCH IN PROGRESS

A List of Research Scholars Registered for Doctoral Degree of Indian Universities

SOCIAL SCIENCES

Library Science

1. Anand, Virender Kumar. *Evaluation of literature in 'cancer' its treatment in various classification scheme and n proposal for special scheme of library classification.* Panjab. Dr. (Mrs.) Ranjana Vohra, Department of Library Science, Panjab University, Chandigarh.
2. Gupta, Nenu. *Legal information system for India : A proposed model.* Panjab. Dr. H. R. Chopra, Department of Library Science, Panjab University, Chandigarh.
3. Jaspal Singh. *Effects of participative decision making process on staff satisfaction in Indian Universities libraries and its impact on library services and patrons satisfaction : A study using Merchant's performance measurement models.* Panjab. Dr. U. K. Tikku, Department of Library Science, Panjab University, Chandigarh.
4. Singh, Naorem Giridhari. *Personnel problems in library management : A study of the University and Post Graduate Centre Library in the North Eastern Region of India.* Manipur.

Psychology

1. Gujral, Supreet. *A study of personality and motivational correlates of type A behaviour.* Panjab. Dr. Meena Sehgal, Department of Psychology, Panjab University, Chandigarh and Dr. Anuradha Bhandari, Department of Psychology, Panjab University, Chandigarh.

Sociology

1. Batra, Jagdeep Kaur. *Factors of divorce and problems of subsequent adjustment : A sociological study.* Panjab. Dr. (Mrs.) Raj Mohini Sethi, Department of Sociology, Panjab University, Chandigarh.
2. Goyal, Radhey Shyam. *Caste inequalities socio-culture and fertility behaviour : A study of selected village communities of Punjab and Haryana.* Panjab. Dr. S. R. Mehta, Department of Sociology, Panjab University, Chandigarh and Dr. G. P. Mehta, Department of Statistics, Panjab University, Chandigarh.
3. Meshram, Shiv Charan. *Jati evam pramparagat vyaasay : Balagha' Jile ke Kashi Jati ka samajshasriya adhvayon* H. S. Gour. Dr. N. K. Gurha, Department of Sociology, Dr. Harisingh Gour Vishwavidyalaya, Sagar.
4. Munjal, Brij Mohan. *Social heritage of the Balmiki Ramayana and the Mahabharata.* Devi, Ahilya.
5. Porhan, K. P. *A sociological study of the impact of mixed marriages on family life, inter-community understanding and adjustment as well as national integration in India with particular reference to Madhya Pradesh.* D. Litt. Devi Ahilya.
6. Trivedi, Kiran. *Gramin samudayon ke samajik arthik vikas mein jansanchar madhyamon ke bhumika : Indore Jile ke sandarbh mein.* Devi Ahilya. Dr. (Smt.) S. Pothan, Department of Sociology, Govt. New Girls Degree College, Indore.
7. Zarabi, Dasy. *Knowledge of and attitudes towards population education : A comparative study of employed and unemployed women in a selected area of Chandigarh.* Panjab. Dr. S. R. Mehta, Department of Sociology, Panjab University, Chandigarh.

Political Science

1. Guite, Siamkhum. *A study of the changing faces of the Paite community*. Manipur.
2. Joseph, Shaji. *India's role in the search for a new international economic order: A study*. Kerala. Dr. G. Gopakumar, Lecturer, Department of Politics, University of Kerala, Trivandrum.
3. Mini, B.S. *Socio-economic status and political participation of women in Kerala: A study of Trivandrum District*. Kerala. Dr. D. Jayadevas, Lecturer, I.C.C., Kariavattom.
4. More, Trambak Shivram. *Political strategy of Dr. Ambedkar from 1930-1950: A critical study*. Shivaji. Dr. A. S. Chausalkar, Department of Political Science, Shivaji University, Kolhapur.
5. Pakhnongte, Ruothlei. *Political development in the Hill Areas of Manipur*. Manipur.
6. Pawar, Devidas Yenkatrao. *Indian politics and elite news papers, 1967-75: A critical study*. Shivaji. Dr. A. S. Chausalkar, Department of Political Science, Shivaji University, Kolhapur.
7. Singh, Salam Sanatomba. *Pak-U.S. axis during, 1979-86*. Manipur.
8. Singh, N. Tarunkumar. *The Melite minority in Bangladesh: A case study of its economic, social and political status*. Manipur.

Economics

1. Bahuguna, Sanjeev. *Economic aspects of population growth in the North Eastern Region*. Manipur.
2. Meetei, K. Ibomcha. *A study of the khadi and village industries in Manipur*. Manipur.
3. Ngazhte, L. Chinzakham. *Zomi economy: Agrarian system under chieftaincy*. Manipur.
4. Pathak, Nanda. *Chhindwara Jile ke koyala udyogon mein rashtriya karan ke pashehat shrumikon ke arthik srstti HS Gour*. Dr. M.L. Tripathi.
5. Singh, E. Bijoykumar. *Distribution of grains from technological change in agriculture: A case study of Manipur*. Manipur.
6. Singh, K. Manibabu. *Financing of rural development in Manipur during plan periods*. Manipur.
7. Singh, L. Bokui. *Problems of agricultural labour: A case study of Thoubai District*. Manipur.
8. Singh, R.K. Lahit. *Industrialisation in Manipur: A policy framework*. Manipur.
9. Singh, Y. Momon. *Financing of college and small scale industries*. Manipur.

Law

1. Inder Singh. *Causation and control strategies of juvenile delinquency in Himachal Pradesh: A socio-legal study*. HP. Dr. C.L. Anand, Department of Law, Himachal Pradesh University, Shimla.

Public Administration

1. Anil Kumar. *An evaluation of the performance of Haryana Agro-Industries Corporation*. Panjab. Dr. B. S. Ghuman, Department of Public Administration, Panjab University, Chandigarh.

2. Nisha Rani. *Policy analysis and implementation of welfare schemes for scheduled castes in the state of Haryana*. Panjab. Dr. Sahib Singh Bhayana, Department of Public Administration, Panjab University, Chandigarh.

3. Pannu, Madanjit Kaur. *Some aspects of job satisfaction of teachers working in universities and colleges in Panjab and Chandigarh*. Panjab. Dr. B.S. Ghuman, Department of Public Administration, Panjab University, Chandigarh.

4. Rustam Singh. *Status of violence in the Marxist theory of revolution: From Marx to Mao*. Panjab. Dr. B.S. Brar, Department of Public Administration, Panjab University, Chandigarh.

Education

1. Apabi Devi, S. *Development of secondary education in Manipur from 1964-1984*. Manipur.

2. Azari, Homayoun. *A study of organizational climate in relation to the leadership behaviour and self concept of principals in the primary and secondary schools of Karman City, Iran*. Panjab. Dr. Harish Sharma, Reader, Department of Education, Panjab University, Chandigarh.

3. Bhargia, Rita. *The impact of polyvalent education of Shramik Vidyapeeths on industrial workers*. Panjab. Dr. (Mrs) Tehal Kohli, Department of Education, Panjab University, Chandigarh.

4. Bimoia Devi, L. *An investigation into the problem of teacher education in Manipur of secondary stage*. Manipur.

5. Emomotimi, Ekisawetu. *Effect of occupational stress, attitude towards profession and fear of evaluation on teacher effectiveness*. Panjab. Dr. Asha Mohan Sethi, Department of Education, Panjab University, Chandigarh.

6. Farajollahi, Mehran. *Problems of primary education as perceived by parents of primary school children in Korman State of Iran*. Panjab. Dr. (Mrs) I.P. Sharma, Department of Education, Panjab University, Chandigarh.

7. Goyai, Sonia. *Effects of parental handling model and power on adolescent adjustment*. Panjab. Prof. S.S. Mathur, Department of Education, Panjab University, Chandigarh.

8. Kamau, Catherine Wanjiku. *Burnout, locus of control and mental health of teachers in Eastern Province of Kenya*. Panjab. Dr. Asha Gupta, Department of Education, Panjab University, Chandigarh.

9. Paramjit Kaur. *Effect of creativity intervention training on the traditional and divergent drawing characteristics of children in relation to their self concept and socio-economic status*. Panjab. Prof. (Miss) S. Gakhar, Department of Education, Panjab University, Chandigarh.

10. Rath, Niranjan Prasad. *Adult education training and productivity: A study of workers in Chandigarh*. Panjab. Dr. N.N. Pangotra, Director, Centre for Adult, Continuing Education and Extension, Panjab University, Chandigarh.

11. Santosh Kumar. *Assessment of physical fitness of Himachal Pradesh high school boys*. Panjab. Dr. Harnam Singh, Reader, Department of Physical Education, Panjab University, Chandigarh and Dr. Reet Mohinder Singh, Deputy Director, Physical Education, Panjab University Campus Sports, Chandigarh.

12. Satvinder Pal. *Effectiveness of computer assisted instruction on mathematics achievement of students at the Piagetian concrete and formal stages of development*. Panjab. Prof. J.N. Joshi, Department of Education, Panjab University, Chandigarh.

13. Urmila Rani. *Personal and educational environmental factors as correlates of moral judgement among urban and rural senior secondary students*. Panjab. Dr. S.C. Gakhar, Lecturer, D.A.V. College of Education, Abohar.

Commerce

1. Chavan, Vasant Marutao. *Financial management in dairy enterprises in inter-sectoral comparison*. Shivaji. Dr. P.S. Rao, Principal, Cbhi Shahu Central Institute of Business Education and Research, Kolhapur.
2. Gavai, Anand Keshuv. *The study of labour absenteeism in textile industry in 1986 in Solapur*. Shivaji. Dr. P.C. Shejwalkar, Chintamanrao College of Commerce, Sangli.
3. Kojiam, Raibirola. *Motivation and organization effectiveness in public sector undertakings of Manipur*. Manipur.
4. Madan, Yashwant Diwan. *A study of media planning methodology and enquiry into its applicability in India*. Shivaji. Dr. P.C. Shejwalkar, Chintamanrao College of Commerce, Sangli.
5. Mehta, Mohanlal. *Financing of small scale industries in Himachal*. HP. Dr. R.C. Konde, Department of Commerce and Business Administration, Himachal Pradesh University, Shimla.
6. Sharma, Chand Parkash. *Industrial sickness in small scale industries in Himachal Pradesh*. HP. Dr. Sunil Kumar Gupta, Department of Commerce and Business Administration, Himachal Pradesh University, Shimla.
7. Shinde, Madan Madhavrao. *The study of city bus service with reference to Sangli and Miraj*. Shivaji. Dr. P.C. Shejwalkar, Chintamanrao College of Commerce, Sangli.
8. Singh, Badakumar. *Financing of handloom industry in Manipur*. Manipur.

Business Management

1. Sharma, Rameshwar. *Accounting for price level changes: A study of private sector enterprises in Himachal Pradesh*. HP. Dr. Sunil Kumar Gupta, Department of Commerce and Business Administration, Himachal Pradesh University, Shimla.

HUMANITIES

Philosophy

1. Khundongbam, Gokul Chandra. *White head and neo-vedantism: A critical study in comparative philosophy*. Manipur.

Fine Arts

1. Byas Dev. *Historical portraits from the Lahore Darbar, 1739-1849*. Panjab. Dr. (Mrs) Karuna Goswami, Department of Fine Arts, Panjab University, Chandigarh.

Language & Literature

English

1. Bakshi, Raj Natb. *The use of English in the Union Territory of Chandigarh: A study in sociolinguistics*. Panjab. Dr. N.K. Oberoi, Department of English, Panjab University.

Chandigarh and Dr. Kamlesh Sadanand, Reader, Department of Phonetics and Spoken English, Central Institute of English and Foreign Languages, Hyderabad.

2. Binita Devi, G. *Feminism in the novels of Ruth Prawer Jhaveria*. Manipur.

3. Jha, Girish Chandra. *The achievement of T.S. Eliot as a literary critic*. Manipur.

4. Sharma, G. Ibopishak. *A study of secular thought in the poetry of A.L. Tennyson and R. Browning*. Manipur.

5. Singh, K. Manoranjan. *Isolation and integration: The plays of Arthur Miller and Tennessee Williams*. Manipur.

6. Singh, L. Raghmani. *John Donne and Gerard Manley Hopkins: A comparative study of their religious poetry*. Manipur.

7. Singh, S. Chandrajit. *Children characters in Charles Dickens's fiction*. Manipur.

Sanskrit

1. Arya, Sukumar. *Swami Dayanand ke shaili ke paravarti ved bhashyakar: Tulanatmak adhyayan*. Panjab Prof. B.L. Bhartiya Dayanand Chair for Vedic Studies, Panjab University, Chandigarh.

2. Dinesh Chander. *Swami Dayanand krit Aryabhinav ke parampara mein rachit ved vyakhyana granth*. Panjab. Prof. B.L. Bhartiya, Dayanand Chair for Vedic Studies Panjab University, Chandigarh.

3. Guleria, Mast Ram. *A critical and comparative study of Vyasa bhasya and Yogavartika of vijananabiksu on patanjaliyaganyasa*. Panjab. Dr. D.R. Sharma, Department of Sanskrit, Panjab University, Chandigarh.

4. Minu Rani. *A study of ultimate in Sankara vedanta*. Panjab. Prof. R.M. Sharma, Department of Sanskrit, Panjab University, Chandigarh.

5. Sharma, Deva Nand. *Swatantryottar Sanskriti shikshayan ka sahityik adhyayan, 1951-1975*. Panjab. Dr. Ghanshyam Sharma, Vishveshwaranand Vishwa Bandhu Institute of Sanskrit and Indological Studies, Hoshiarpur.

Punjabi

1. Asha Rani. *Punjab ke nirgun sant kavi*. Panjab. Prof. D.P. Singhal, Department of Guru Ravi Dass Chair, Panjab University, Chandigarh.

2. Baljit Kaur. *Guru Nanak bani vich manav vad da sankalp*. Panjab. Dr. Raghbir Singh, School of Punjabi Studies, Panjab University, Chandigarh.

3. Jamit Kaur. *Jaswant Singh Kanwal de navatan dian natkaryan: Ek alochnatmak adhyayan*. Panjab. Dr. (Mrs) Kulwant Kaur Kohli, School of Punjabi Studies, Panjab University, Chandigarh.

4. Pannag, Gurdeep Kaur. *Punjabi sufi kavita vich irisha da udgam ate vikar*. Panjab. Prof. Attar Singh, Sheikh Baba Farid Chair, Panjab University, Chandigarh.

5. Rajinder Kaur. *Sant Singh Sekhon dian kahanian vich kisan sanskriti*. Panjab. Dr. Raghbir Singh, Lecturer, Department of Punjabi Lexicography, School of Punjabi Studies, Panjab University, Chandigarh.

6. Sewarn Kaur. *Sant kavi Garib Dass: Jiwan sampradai, evam karya ka vivechan*. Panjab. Prof. D.P. Singhal, Guru Ravi Dass Chair, Panjab University, Chandigarh.

7. Surinder Kumar. *Amrita Pritam de navelan da alochnatmak adhyayan*. Panjab. Dr. Jagtar Singh, Lecturer, Department of Punjabi, Govt. College, Hoshiarpur.

8. Virk, Kuljeet. *Punjabi dian Istri kahani karan diin kahani vich Istri samredana*. Panjab. Dr. Raghubir Singh, Lecturer, Department of Punjabi, Lexicography. School of Punjabi Studies, Punjab University, Chandigarh.

Hindi

1. Ahantembi, Sundari. *Hindi eram Manipuri natya sahitya ka tulnatmak adhyayan*. Manipur.

2. Anand, Geeta. *Adhunikta ke sandarbh mein swatantrayotrar Hindi Ramkavya*. Panjab. Dr. Laxmi Narain Sharma, Department of Hindi, Panjab University, Chandigarh.

3. Asha. *Manav mulyon ke sandarbh mein Kahir tatha Tulsidas ke karya ka tulnatmak adhyayan*. Panjab. Dr. R.D. Singhal, Department of Hindi, Panjab University, Chandigarh.

4. Ibemhal Devi, L. *Brajabali Geeti karya ke paritpekshya mein Manipuri geeti karya ka anusheelan*. Manipur.

5. Jaio, Sangita. *Hindi ke manovalyantik upanyasnon ke pramukh Istri purush patron ke prem sambandhon ka adhyayan*. Devi Ahilya. Dr. (Smt) C.K. Agnihotri, Asst. Prof., Govt. Girls's P.G. College, Moti Tabela, Indore.

6. Jain, Sarita. *Shiv Prasad Singh ka katha sahitya*. Manipur.

7. Kanchan Lata, *Defender Lal Rai ka Chanderdurgt tatha Jaishankar Prasad ka Chanderdurgt Maurya : Tulnatmak adhyayan jithatik evam sankritik drishtit se*. Panjab. Dr. D.P. Maini, Department of Hindi, Panjab University, Chandigarh.

8. Mulla Mahmesbanji Imambhusen. *Hindi ke utthasth katha sahitya mein nari sansayon : Premchand yug se san 1960 ivti tak*. Shivaji. Dr. B.B. Patil, Principal, Mahavri College, Kolhapur.

9. Prasad, Shiv Narayan. *Vishnu Prabhakar ke sahitya mein vyakti vichardhra ka vishleshtnatmak adhyayan*. Manipur.

10. Rai, Shiv Shankar. *Ghozipur Jile ka maukhik sahitya*. Manipur.

11. Ram Sudhar. *Bhojpuri lokgiton ka adhyayan*. Manipur.

12. Sasikaladevi, S. *Lakshmi Narayan Lai ke natokon par asitiravad ka prabhav*. Kerala. Dr. V.V. Viswami, Prof. Department of Hindi, College for Women, Trivandrum.

13. Shabade, Revansidha Kallappa. *Yashpal ke katha sahitya mein nari chitran*. Shivaji. Dr. P.P. Pathak, D.B.F. Dayanand College, Solapur.

14. Sharma, Khema Nanda. *Rajasthan aur Nepal lok geeton ka tulnatmak adhyayan*. Manipur.

15. Sharma, Khyali N. *gurjuna : Vyakti aur vichardhara*. Manipur.

16. Sharma, Ramesh Kumar. *Swatantrayotrar Hindi kahani mein pashchatya jeevan padhdhai*. Panjab. Dr. Lakshminarayan Sharma, Department of Hindi, Panjab University, Chandigarh.

17. Shashi Kusum. *Samkaleen Hindi natokon ka adhyayan : Sanskrit rangvidhan ke sandarbh mein 1960 se aai tak*. Panjab. Dr. V.R. Mehendiratta, Department of Hindi, Panjab University, Chandigarh.

18. Singh, Jagadish. *Haril Krishna Premi evam Uday Shankar Bharata ka natokon ke tulnatmak adhyayan*. Manipur.

19. Singh, M. Acoubi. *Hindi aur Manipuri ke pratyayan ke tulnatmak adhyayan*. Manipur.

20. Singh, R.K. Khirdirchand. *Hindi aur Manipuri ke lokgeeton ka tulnatmak adhyayan*. Manipur.

21. Singh, Y. Tomba. *Manipuri Bhaski chhatron ke Hindi varnangit trutyakon ka vishleshan tatha samadhan, Class VI to VIII ke liye*. Manipur.

22. Subhash Chand. *Manavreda ke sandarbh mein Vishnu Prabhakar ka sahitya*. Panjab. Dr. Yash Gulati, Department of Hindi, Panjab University, Chandigarh.

23. Thakur, Hariram. *Brajbhasa aur Bundeli kee krishi jeevan sambandhi shabdavali ka tulnatmak anusheelan*. HS Gour. Prof. K.K. Jain, Department of Hindi, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

24. Tripathi, Chander Dutt. *Panjab kee Hindi patrakarita, 1947 se aai tak*. Panjab. Dr. Yash Gulati, Department of Hindi, Panjab University, Chandigarh.

25. Vaishnava, Pramila. *Visangar Hindi natak : Ek anusheelan, san 1960 se 1987 tak*. Devi Ahilya. Dr. Vilas Gupta, Lecturer, Department of Hindi, Govt. New Girls Degree College, Indore.

26. Yadav, Surendra Singh. *Agyeya ke katha sahitya mein vyaktidayiva aur samujik dayiva ka dvandh*. Panjab. Prof. M.P. Bhardwaj, Department of Hindi, Panjab University, Chandigarh.

Tamil

1. Devadas, D. *Tamil translations : Study with special reference to works from Malayalam*. Kerala. Dr. K. Nalinmuthu, Reader, Department of Tamil, University of Kerala, Trivandrum.

2. Neelamohan, N. *The critical study of Maduras Veeran-karat*. Kerala. Dr. P. Doctor Nazeemuddin, Lecturer, Department of Tamil, University of Kerala, Trivandrum.

3. Raman, S. *Manohari Tamil monthly : A study*. Kerala. Dr. K. Subramony, Prof. and Head, Department of Tamil, University of Kerala, Trivandrum.

4. Shanmugam, N. *Critical edition and study of yappanukalavartiti*. Kerala. Dr. K. Nalinmuthu, Reader, Department of Tamil, University of Kerala, Trivandrum.

5. Venukumar, V. *Personal names in Kanyakumari District with special reference to Kalkulam and Balarvande taluku : A study*. Kerala. Dr. C. Subramonia Pillai, Reader, Department of Tamil, University of Kerala, Trivandrum.

Geography

1. Barmaia, Jwahar Lal. *A study of the age and sex composition of the population of upper Narmada Basin, 1961 to 1981*. HS Gour. Prof. R.S. Dubey, Department of Geography, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

2. Dubey, Rakesh Kumar. *A geographical study of the population of Bundelkhand Region*. HS Gour. Dr. S.K. Shukla, Department of Geography, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

3. Malvi Devi. *Impact of irrigation on farm mechanization and crop output in selected areas of Madhya Pradesh*. HS Gour. Dr. P.D. Tiwari, Department of Geography, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

4. Nayar, Manju. *Population and food supply in Andaman Islands*. HS Gour. Dr. R.P. Mishra, Department of Geography, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

5. Pathak, Surendra Kumar. *Ethno-social geography of Sagar City : An interdisciplinary study*. HS Gour. Dr. J.L. Jain, Department of Geography, Dr. Harisingh Gour Vishwavidyalaya, Sagar and Dr. Prof. Samrendar Saraf.

6. Rathore, Sandhya. *Impact of development programmes on the rural population in Sagar District, M.P.*. HS Gour. Dr. S.K. Shukla, Department of Geography, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

7. Sirciya, Pratima. *District level planning: A case study of Hosangabad*. HS Gour. Dr. R.P. Mishra, Department of Geography, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

8. Subedar, Pradeep Kumar. *Morphometric analysis on the Bina Basin*. HS Gour. Dr. R.S. Dubey, Department of Geography, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

History

1. Das, Ranjana. *The evolution of regional power configuration in the Indian sub-continent C. 600 B.C. to 200 B.C. A geo political study*. Manipur.

2. Debendra Singh, N. *Social and cultural history of Manipur 15th to 17th C.* Manipur.

3. Joseph, A.K. *The Murams: A socio-cultural study*. Manipur.

4. Khan, Nalini Felicia. *Agrarian and fiscal administration in Ancient India from the Maurya to the Gupta periods*. Panjab. Dr. J.K. Sharma, Department of History, Panjab University, Chandigarh

5. Kullachandra. *Second World War and Manipur: A historical study*. Manipur.

6. Pakhuongte, Kimnu. *Missionary education and its impact on tribal society: The case of Hmars in North-East India*. Manipur.

7. Pazhani, T. *Social change among the Vellalas of Nanchinad*. Kerala. Dr. B. Sobhanan, Lecturer, Department of History, University of Kerala, Trivandrum.

8. Pudaite' Josangkim. *A historical study of the festivals of Manipur*. Manipur.

9. Rajasekharan, K. *History of social change among the Nairs in Kerala*. Kerala. Dr. B. Sobhanan, Lecturer, Department of History, University of Kerala, Trivandrum.

10. Sarachandran, M.K. *A history of administrative changes in Travancore, 1809-1888*. Kerala. Dr. B. Sobhanan, Lecturer, Department of History, University of Kerala, Trivandrum.

11. Sreekumar, R. *Socio political life of Malabar as depicted in the Northern Ballads*. Kerala. Dr. K.K. Kusuman, Reader, Department of History, University of Kerala, Trivandrum.

12. Syed Ahmed. *The British East India Company and the North Eastern State Sylhet, Cachar and Manipur during the 18th and the 19th century*. Manipur.

13. Thankarajan, C. *Social and educational changes among the mappilas of Malabar, 1850-1947*. Kerala. Dr. B. Sobhanan, Lecturer, Department of History, University of Kerala, Trivandrum

THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities.

SOCIAL SCIENCES

Psychology

1. Achala Kumari, Y. *Small group interaction and social acceptance among pre-adolescents*. Bangalore. Dr. M.S. Thimmappa, Department of Psychology, Bangalore University, Bangalore.

Sociology

1. Agrawal, Sudha. *Dakshini Paschimi Madhya-Pradesh ke Janjati kshetron mein krishi pravartan*. Devi Ahilya Dr. Y. G. Joshi, Govt. Arts and Commerce College, Indore.

Political Science

1. Chenoy, Anuradha Mitra. *Soviet theories of national liberation with special reference to Soviet attitudes in the United Nations, 1945-65*. JNU, Prof. R.R. Sharma, Centre for Soviet and East European Studies, Jawaharlal Nehru University, New Delhi.

2. Jain, Satya Narayan. *Bharatiya samvidhan ke Mool-bhoop (ratna): Ek alochnatmak adhyayan, visheshtah Uchchatam Nyayalaya dwara diye gaye Kesharanand Bhauri tatha parvati niyantran ke alek mein*. Rajasthan. Prof. H. G. Pant, Department of Political Science, University of Rajasthan, Jaipur.

3. Nallini, Madireddi. *Women's welfare programmes in Andhra Pradesh: A case study of Visakhapatnam District*. Andhra.

4. Ojha, Narendra Kumar. *Vishwa rajnitil mein asanlangna rashtron kee bhoomiki: Asia ke vishesh sandarbh mein*. Vikram. Dr. Amresh Awasthi, Ex-Vice-Chancellor, Rani Durgawati Vishwavidyalaya, Jabalpur.

5. Patbak, Gyanvardban. *Kendra-rajya sambandh: M.P. ke vishesh sandarbh mein*. Vikram. Dr. Amresh Awasthi, Ex-Vice-Chancellor, Rani Durgawati Vishwavidyalaya, Jabalpur.

6. Ram Chander. *National political parties and directive principles, 1967-1980*. Kurukshetra.

7. Kay, Asok Kr. *The problem of legitimacy in the Thadoakuki Tribal society in Manipur*. Burdwan. Prof. Radharaman Chakraborti, Formerly Prof, Department of Political Science, University of Burdwan, Burdwan and Prof. N. C. Choudhuri, Prof., Department of Sociology, North Bengal University, Rajarammohanpur, Distt. Darjeeling.

8. Sinha, Nayanit. *Administration of entertainment tax in Bihar*. Magadh.

9. Tiwari, Suman. *Bharatiya rashtrapati kee apakaleen shaktiyen*. Vikram. Dr. C. S. Panwar, Reader, Department of Political Science, Vikram University, Ujjain.

Economics

1. Bajaj, Sitaram Shriramji. *A study of the use of various information sources and communication channels for transferring*

the new agricultural technology to the farmers of the drought prone areas. MP Agri. Dr. S.S. Thorat, Director of Extension Education, Mahatma Phule Agricultural University, Rahuri.

2. Dubey, Anju. *Damoh Jile mein adhvani laghu pariyojana: Ek mulyankan*. HS Gour. Dr. M.L. Tripathi, Department of Economics, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

3. Gupta, Babu Lal. *Operations management, production planning and control: Application of operation research techniques*. Rajasthan. Dr. B. S. Gupta, Department of Accountancy and Business Statistics, University of Rajasthan, Jaipur and Dr. R. S. Khandelwal Department of Mathematics, University of Rajasthan, Jaipur.

4. Jain, Chandra Prakash. *Profitability analysis of bearing industry in India*. Rajasthan. Dr. B. S. Gupta, Department of Accountancy and Business Statistics, University of Rajasthan, Jaipur.

5. Lali Devi. *Non conventional energy sources in rural household sector of Haryana: An action research*. HAU.

6. Mathew, Ajoy. *A study of coconut economy of Kerala, 1956-1983*. CUST. Dr. K. C. Sankaranarayanan, Prof. and Head, Department of Applied Economics, Cochin University of Science and Technology, Cochin.

7. Singh, Ningthoujam Ram. *Agricultural development in the North-Eastern region of India including Sikkim during the plan period*. Manipur. Prof. H. Nabakishore Singh, Head, Department of Economics, Manipur University, Imphal.

8. Singh, Prabhat Kumar. *Role of the Rajasthan Co-operative Federation Limited in the agrarian economy of Rajasthan*. Rajasthan. Prof. Om Prakash, P-2, University Campus, University of Rajasthan, Jaipur.

9. Singh, W. Kumar. *Population growth and agricultural development in Manipur, 1951-1985*. Manipur. Dr. L. Tombi Singh, Assoc. Prof, Department of Economics, Manipur University, Imphal.

10. Vijaya Prajapathi Joshua, Busi. *The nature of absenteeism in industry: A study of Hindustan Shipyard Limited*. Andhra.

Law

1. Gupta, Subhash Chander. *Protective discrimination as an instrument of social justice under the Indian Constitution*. Kurukshetra.

2. Sabharwal, Ramesh Kumar. *Safeguards to industrial workers in the matter of termination of services in India*. Kurukshetra.

Public Administration

1. Ananda Rao, Gurugubelli. *Finance Commissions of India: A study of some aspects*. Andhra.

2. Ananda Rao, Mallapalli. *Functions and finances of local bodies in Andhra Pradesh: A case study of local bodies in Visakhapatnam District*. Andhra.

Education

1. Das, Banamali. *Construction and standardization of a scientific aptitude test in Oriya for the 10th class students of Orissa*. Kurukshetra.

2. Mathur, Brijendra Mohan. *Adult education and social change in Rajasthan*. Rajasthan.

3. Sangwan, Ram Kanwar. *A study of motive structure of high proficiency sprinters and low proficiency sprinters*. Kurukshetra.

4. Sharma, Sunil Dutt. *Relationship of leg power, speed of movement, co-ordinative abilities and flexibility to acceleration ability in sprinting of 14 to 16 years boys of Haryana State*. Kurukshetra.

5. Siddiqui, Shahjahan. *Standardization of a test in creative-thinking for Urdu-speaking student of formal-operative stage in Telangana Area, A. P. State*. Osmania.

6. Vijaya Lakshmi, Ch. *An evaluation of logical application of Mathematics to educational research with special reference to doctoral level*. Osmania.

Commerce

1. Gokhha, Sugan Chand. *Madhya-Pradesh ke dal udvoga ka vishleshanam adhyayan: Narsinghpur Jile ke vishesh sandarbh mein*. Durgawati. Dr. D. K. Sinha, Prof., G. S. College of Commerce and Economics, Jabalpur.

2. Kaushal, Vijay Kumar. *Case studies on acquisition mergers/take-overs of companies in India*. IIP.

3. Shrestha, Rajani. *Industrial estates in Nepal*. Baroda.

4. Srivastava, Nirmal Kumar. *Cooperative leadership in Bihar: Problems and prospects*. Magadh.

Home Management

1. Gocl, Manju. *A study of family managerial behaviour in energy crisis situation*. Baroda.

Management

1. Basu, Anirban. *Some studies on the performance of parallel processing computer systems*. Calcutta.

2. Ramakrishna Sastri, G.B. *Theory and practice of board level participation with special reference to nationalised banks and major ports in India*. Osmania.

3. Sharma, Prakash. *Management and control of materials in iron and steel industry in India*. Rajasthan. Dr. Sugan Chand Jain, Department of Accountancy and Business Statistics, University of Rajasthan, Jaipur.

4. Singh, Ram Naresh. *Design of an expert user interface management system*. JNU. Dr. P.C. Saxena, School of Computer and Systems Sciences, Jawaharlal Nehru University, New Delhi.

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ADMISSION NOTICE NO. 3/88

Applications on prescribed form are invited by 12th July 1988 for the following courses starting from first September, 1988.

Name of the Course	No. of total seats	Seats reserved for Sch. Castes/Tribes	Stipend admissible	Duration
1. B.Sc. Medical Technology (Laboratory)	15	3	Rs. 150/- p.m. for first year and Rs. 200/- p.m. for second year	2 years
2. B.Sc. Medical Technology (X-Ray)	10	2	—do—	—do—
3. B.Sc. Medical Technology (Radiotherapy)	5	—	No stipend admissible	—do—
4. B.Sc. (Audiology & Speech Therapy)	3	1	Rs. 150/- p.m. for first year and Rs. 200/- p.m. for 2nd and 3rd years	3 years
5. Operation Theatre Assistant's Course	10	2	Rs. 150/- p.m.	1 year

- (i) The number of seats given above is subject to variation without prior notice.
- (ii) Candidates should not be more than 25 years and less than 17 years on 1.9.1988 i.e. candidates born after 1.9.1971 and before 1.9.1963 are not eligible.
- (iii) Candidates selected for courses at Sr. Nos. 1, 2, 4 and 5 shall execute service bond which, inter-alia, provides that after successful completion of the course, they shall serve the Institute/Govt. for a period of three years.
- (iv) A limited number of sponsored/deputed candidates may also be accepted for courses at Sr. Nos. 1, 2, 4 & 5. The admission to course at Sr. No. 3 is restricted to deputed/sponsored candidates only. No upper age limit for the deputed sponsored candidates.
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- (c) 3 years experience as Laboratory Assistant Technician (for course No. 1) and as Radiographer (for course No. 2) in a recognised teaching research Institute after obtaining the qualifications mentioned at (a) and (b) above.

OR

- (a) Matriculate passed with Physics and Chemistry from a recognised Board/University.
- (b) Certificate Diploma of at least one year duration in the subject concerned viz. Laboratory techniques for course No. 1 and Radiography for course No. 2 from a recognised Institute.
- (c) 5 years experience as Laboratory Assistant Technician (for course No. 1) and a Radiographer (for course No. 2) in a recognised teaching research Institute after obtaining the qualification at (a) and (b) above.

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- (b) Diploma in Radiography of one year duration from a recognised University or Institute.
- (c) Atleast three years experience as Technologist attached to Radiotherapy division or department of a recognised teaching/research Institute obtaining the qualifications at (a) and (b) above.

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2. Post Harvest Technology.
3. Vegetable Crops
4. Floriculture and Landscaping
5. Mycology and Plant Pathology
6. Entomology and Apiculture

(b) Forestry (Interview on 16-7-1988 at 11.00 A.M. in the University Campus)

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2. Silviculture and Agro-forestry.
3. Forest Products and Utilization.
4. Soil Science and Water Management.
5. Economics.

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- (ii) No separate letter for entrance examination/interview will be issued.
- (iii) Candidates should attend entrance examination/interview at their cost on the specified date and time and bring original certificates.

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Announces Admission to

Bachelor's Degree Programme, 1988-89 (B.A. & B.Com.)

Indira Gandhi National Open University, an autonomous institution set up under an Act of Parliament, invites applications from eligible candidates for admission to its Bachelor's Degree Programme leading to the award of degrees in B.A. and B.Com. The University offers opportunities for higher education through the use of distance teaching methods which include carefully designed self-instructional printed study materials, continuous evaluation of student's assignments, facility for use of audio and video cassettes, counselling programmes at more than 100 study centres spread all over the country. The University also plans to make use of other mass media like radio and television in due course to provide still better means to its learners/students living in remote areas of the country. **THE SALIENT ASPECTS OF THE PROGRAMME OFFERED AND INSTRUCTIONS GIVEN BELOW SHOULD BE CAREFULLY READ AND COMPLIED WITH BEFORE FILLING UP THE ACCOMPANYING FORM.**

PRE - REQUISITES & FEATURES OF THE PROGRAMME

1. Who can be admitted ?

The candidates should have passed Senior Secondary School Examination (Plus Two Stage under the 10+2 Pattern), Intermediate Examination or Higher Secondary II or an equivalent Examination from a recognised Board of Education or a University.

2. What Age ?

There is no restriction of minimum or maximum age. However, the University reserves the right to rationalise admission on the basis of merit at the entry qualification.

3. How long to study ?

A minimum study period of three years is required to be devoted; HOWEVER THE STUDENTS HAVE THE FREEDOM TO COMPLETE THE PROGRAMME SUCCESSFULLY IN A MAXIMUM PERIOD OF 8 YEARS. Thus persons engaged in their professions or domestic chores can pace their studies depending on time and other facilities available with them.

4. How much to study ?

The students will have to earn 96 credits in all for the award of B.A. or B.Com degree. Each credit would require 30 hours of study. The study programme would comprise Foundation Courses-24 credits Elective Courses in Hindi, English, History, Pol. Science, Public Admn., Economics, Sociology and Commerce 56-64 credits and Application-oriented courses 8-16 credits. The programme of study is divided into small and manageable printed course modules of 4 or 8 credits each

Courses equivalent of maximum 32 credits can be offered in a single year.

During the first year, however, the students will be required to take Foundation Courses carrying 24 credits. Students can also do one elective course of 8 credits alongwith the Foundation Course.

5. What medium of instruction ?

Undergraduate courses, other than languages, are available in English as well as Hindi. The choice is left to the student.

6. How frequent the Testing ?

The first examination in the course courses offered will be at the end of concerned academic session. The students can pace their studies and earn credits according to their convenience, subject to 3 above.

The progress of the student will be assessed on a continual basis through assignments which the students will be required to submit on a regular basis as per schedule announced. The performance in continuous evaluation (assignments) will be counted towards final result as per the rules of the University.

7. Where will you get counselling facilities ?

Counsellors/Tutors shall be available at one of the following study centres to be allocated after admission.

Hyderabad, Tirupati, Vijayawada, Guntur, Warangal, Anantpur, Somajiguda (Hyderabad), Port Blair, Itanagar, Guwahati, Patna, Jamshedpur, Dhanbad, Muzaffarpur, Bhagalpur, Ranchi, Chandigarh, Delhi, New Delhi, Margoa, Ahmedabad, Vadodara, Rajkot/Kurukshetra, Sonapat, Panipat, Bhiwani, Rohtak, Shimla, Mandi, Solan, Jammu-Tawi, Bangalore,

4. Nationality: _____

5. Father's Name:

[illegible]

Surname

Name (First & Second)

6. Postal Address (Complete)

1

[illegible]

3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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4. Village Town

[illegible]

5 Distt & State

Department	Category	Item	Quantity	Unit Price	Total Price
Engineering	Materials	Steel	100	1.50	150.00
		Aluminum	50	2.00	100.00
Manufacturing	Labor	Welding	200	0.75	150.00
		Assembly	150	0.60	90.00
Sales	Marketing	Advertising	50	3.00	150.00
		Promotion	30	2.00	60.00
Finance	Administration	Office Supplies	100	0.50	50.00
		Travel	20	2.50	50.00

6 Pin Code

8. Choice of Stream/Course

(Write B.A. or B.Com in the Box)

9 Whether SC or ST candidate ?

(Write SC for Scheduled Caste
or ST for Scheduled
Tribe, if applicable)

10 Registration fee

Remit Rs. 15/- through a Bank Demand Draft payable to :

**'Indira Gandhi National Open University,
New Delhi'.**

Bank STATE BANK OF INDIA ONLY

Branch & Town

Bank Draft No

(Letter Code) (Number)

7 Educational Status

Highest Public Examination Passed	Name of the Board or University	Year of Passing	Subjects Passed	% of Aggregate Marks

CAPITAL LETTERS ONLY

Date of Issue

I hereby declare that the particulars supplied by me are correct to the best of my knowledge and it will be supported by documents when asked for. I am also fully aware of the fact that in the event of any information being found incorrect or misleading my candidature shall be liable to cancellation by the University any time

(Please read instructions in the concluding para)

Date -

Full Signature of the Candidate

WADIA INSTITUTE OF HIMALAYAN GEOLOGY

(An Autonomous Organization of Department of Science and Technology,
Government of India)

33, GENERAL MAHADEV SINGH ROAD,
DEHRA DUN - 248 001

No. Advt. No. 1/88-WIHG

Dated : 7.6.88

Applications are invited by the Director for the following post.

Assistant Administrative Officer

One post (Un-reserved) - Temporary but likely to continue

Pay Scale : 2,000-60-2,300-EB-75-3,200-100-3,500.

Qualifications and Experience

Essential :

First or high Second Class Degree in Arts/Science/Commerce, Business Management or Personnel Management with ten years experience out of which five years experience should be in Supervisory position of establishment work in a government department or Corporation or an autonomous body. The candidate should be conversant with Government Rules and regulations in establishment and accounts matter.

Job Requirement

He will be responsible for administrative activities like recruitment, assessment promotions, personnel management maintenance of a fleet of vehicles and administrative works on scientific activities of the Institute etc.

Age : Maximum 40 years.

General Conditions

1. He will be paid allowances as per Institute rules.
2. Age relaxable to SC ST candidates as per rules.
3. Candidates desiring to join on deputation terms will also be considered for selection.
4. Application may be made on plain paper giving the following particulars with copies of Certificates :
 - (i) Post applied with Advt. No.
 - (ii) Name of the applicant
 - (iii) Father's Name
 - (iv) Date of birth
 - (v) Address of communication
 - (vi) Qualifications from High School onwards mentioning examinations passed, class/grade obtained, year of passing, Board, University and subjects taken.
 - (vii) Present status and basic pay
 - (viii) Experience of previous employment giving names of the employer and post held.
 - (ix) Nature of duties performed
 - (x) Name and address of two referees
 - (xi) Particulars of postal orders
 - (xii) Any other information that the applicant may like to give.
5. A crossed non-refundable current Indian Postal order for Rs. 8/- (Rs. 2/- in case of SC/ST candidates) drawn in favour of Director, W.I.H.G. payable at Dehra Dun, should be sent along with the application. Completed applications should reach the Registrar on or before **30.6.1988**. Candidates already in service must apply through proper channel. Incomplete applications not accompanied by the Postal orders and copies of certificates are to be rejected.
6. All applications received will be considered by a Screening Committee for short listing and Screening Committee may restrict the numbers of candidates for interview on the basis of qualifications and experience higher than the minimum prescribed. The Director also reserves the right of rejecting any or all applications without assigning any reason thereof. The Institute reserves the right not to fill the post advertised if deemed necessary.
7. Canvassing in any form and/or bringing any influence will be treated as a disqualification.
8. No interim enquiries will be entertained.

G.R.K. Nair
REGISTRAR

CLASSIFIED ADVERTISEMENTS

HARYANA AGRICULTURAL UNIVERSITY HISAR

Advertisement No. 2/88

Applications are invited for following posts on the prescribed proforma obtainable from Assistant Registrar (Faculty), Haryana Agricultural University, Hisar by sending self-addressed unstamped envelope size 23 x 10 Cm. alongwith Indian Postal Order of Rs. 2/- in the name of Assistant Registrar (General) or on payment of Re 1/- in cash at the counter. Candidates already in service must apply through proper channel. Applications complete in all respects accompanied by a fee of Rs. 20/- for posts at Sr. No. 1 to 4, Rs. 15/- for posts at Sr. No. 5 to 17 and Rs. 10/- for post at Sr. No. 18 in the form of Indian Postal Order in the name of Assistant Registrar (General), Haryana Agricultural University, Hisar, payable at HAU Post Office, Hisar should reach the Registrar by 11.7.1988 (23.7.88 for candidates residing abroad). Incomplete applications and those received late will not be considered. Benefit of Contributory Provident Fund and Leave etc. admissible as per University Rules. The applicants must possess prescribed qualifications and experience on the last date for receipt of applications. However, those who have submitted their thesis (Master's/Doctorate's level) by the last date of receipt of applications are also eligible to apply. The date of submission of thesis must be supported by a certificate duly signed by the concerned authority of the institution. They will be considered by the Selection Committee only if they produce the completion certificate of Master's/Doctorate degree at the time of interview. The envelope containing application must be superscribed as "APPLICATION FOR THE POST—"

1. Associate Professor (Radiology)—One: Essential: (i) Second class B.V.Sc. & A.H., (ii) Second class M.V.Sc. degree in Vety. Surgery, (iii) Ph.D. in Vety. Surgery, (iv) Five years experience of teaching/research/extension in Vety. Surgery & Radiology. Desirable: Incumbent with teaching and research experience in the field of Vety. Radiology will be preferred.

2. Research Scientist ((Anaesthesia)—One: (Reserved for Scheduled Caste): (i) Second class B.V.Sc. & A.H.; (ii) Second class M.V.Sc. in Surgery; (iii) Ph.D. in Surgery; (iv) Five years experience in teaching/research/extension in Vety. Surgery & Radiology. Desirable: Advanced training in Vety. Surgery.

3. Scientist (Forestry)—One (Reserved for Scheduled Caste): Essential: (i) Second class B.Sc./B.Sc. (Agri.) B. Tech./B.E.; (ii) Second class A.I.F.C. (Associate of Indian Forest College); (iii) Second class Master's degree in Forestry or equivalent; (iv) Ph.D. in Forestry; (v) Five years experience in Forestry. Desirable: Training experience in forestry education/research.

4. Associate Professor (Clothing & Textiles)—One: Essential: (i) 2nd class B.Sc. (Home Science); (ii) Second class M.Sc. in Clothing & Textiles; (iii) Ten years experience in teaching/research/extension in clothing and textiles or allied fields. Desirable: Ph.D. in Clothing and Textiles or allied fields.

Note: Preference will be given to candidates having Ph.D. qualifications.

5. Assistant Professor (Mathematics)—One (For Agriculture College, Kaul): (i) Atleast 2nd class at Bachelor's level, (ii) Master's degree in first class or with an OGPA of not less than 3.2/4.00 or equivalent in the field concerned.

OR

Atleast 2nd class Master's degree followed by Ph.D. in the discipline concerned.

6. Assistant Scientist (Agricultural Physics)—One (Reserved for Scheduled Caste): (i) Second class B.Sc./B.Sc. (Ag.) (ii) Master's degree in first class or with an OGPA of not less than 3.2/4.00 or equivalent in Agril. Meteorology/Meteorology or Physics/Agril. Physics with training in Agril. Meteorology. OR Atleast second class Master's degree followed by Ph.D. in Agril. Meteorology or Meteorology/Physical/Agril. Physics with specialisation in Agrimeteorology/Agril. Physics.

7. Assistant Professor (Agril. Engineering)—One: with specialisation Farm Machinery and Power (Reserved for Backward Class)—For College of Agriculture, Kaul).

8. Assistant Professor (Agril. Engineering)—Two: One each in the discipline of Process Engineering (reserved for Backward Class) & Mechanical Engg. (reserved for S.C.)

9. District Extension Specialist (Agril. Engineering)—Four (Reserved for Scheduled Caste.)

Qualifications for the Posts at Sr. No. 7 to 9: Atleast 2nd class Bachelor's degree in the discipline mentioned against the posts followed by first class Master's degree in the concerned discipline specialization.

10. Assistant Professor (Veterinary Surgery)—One (Reserved for Scheduled Caste).

11. Assistant Scientist (Vety Microbiology)—One (Reserved for Scheduled Caste).

12. District Extension Specialist (Veterinary)—One (for Kurukshetra) (Reserved for Ex-Servicemen).

13. District Extension Specialist (Entomology) for Sirsa—One (Reserved for Scheduled Castes).

14. Assistant Professor (Physics)—One (Reserved for Ex-Servicemen).

15. Assistant Professor (Family Resource Management)—One (Reserved for Backward Class)

16. Assistant Scientist (Foods & Nutrition)—One (Reserved for Scheduled Caste).

Qualifications for the posts at Sr 10 to 16: (i) Atleast 2nd class at Bachelor's level in respective faculties i.e. for posts at Sr. No. 10-12, B.V. Sc. & A.H., for Sr. No. 13, 14B. Sc. (Agri.), B.Sc. (Hons.) Agri. and for posts at Sr. No. 15 & 16 B.Sc. (Home Science: B.Sc.)

(ii) Master's degree in the first class or with an OGPA of not less than 3.2/4.00 or equivalent in the discipline mentioned against each post, or atleast second class Master's degree followed by Ph.D. in the disciplines mentioned against each.

Note: (i) One or more qualifications relaxable in case of candidates found otherwise very suitable.

(2) Persons who do not possess Ph.D. at the time of their

selection shall not be allowed to cross the stage of Rs. 1300/- in the scale of Rs. 700-1600.

- (3) Special weightage will be given to extension experience possessed by the candidates, for posts in the disciplines amenable to extension education.
- (4) Experience will be counted after a candidate obtains his M.Sc. degree. Further a period of 3 years towards obtaining Ph.D. degree shall be excluded from the experience.
- (5) The qualifications regarding experience are relaxable at the discretion of the competent authority in the case of candidates belonging to the Scheduled Castes if, at any stage of selection, sufficient number of candidates from these communities possessing the requisite experience are not likely to be available.

17. Assistant Procurement Officer—One: (i) B.Sc. (Agri) B.Sc. (Dairyng) B.Sc. (An.Sc) B.Sc. in the second division. (ii) Five years experience of purchases & handling of livestock feed in organisations like Haryana Agricultural Marketing Federation (HAFMD) and other Agro-based industries.

OR

Ten years experience of handling of stores and purchases.

18. School Teacher (Physical Education)—One

Essential: (A) (a) A Bachelor's degree in Physical Education of 3 years duration of recognised University OR

(b) Degree of B.P. Ed. of a recognised University, OR

D. P.Ed. awarded by a recognised University/Institution after training of a minimum one academic session, provided that the admission qualifications for the diploma is at least a University degree.

(B) Two years experience in a school.

Desirable: (i) Teaching experience in CBSE affiliated school.

(ii) Active participation in co-curricular activities and ability to organise such activities in the school.

Note: Experience at (B) above relaxable in case of outstanding sportsman/position holder in Haryana State.

Note: 1. If suitable candidates for posts at Sr. No. 2, 3, 6 to 11, 13, 15 & 16 from Scheduled Caste category are not available for the posts reserved for them, these vacancies shall be filled up first from the Backward Class candidates. Likewise, if suitable candidates for Backward Classes are not available then these will be thrown open first to the Scheduled Caste candidates. However, in case suitable candidates belonging to

either of the two categories in respect of the posts meant for both the categories (Scheduled Castes as well as Backward Classes) are not available, then such vacancies shall be filled up from the General Category.

2. The benefit of reservation will be admissible only to those Scheduled Castes, Backward Classes and Ex-Servicemen candidates who are domiciles of Haryana State.

3. Number of vacancies mentioned against each post can vary.

4. Indian Postal Orders purchased before 11.6.88 will not be entertained.

PAY SCALES

Sr. No of Post.	Pay Scales	Total emoluments at the initial of the Pay Scale (exclusive of House Rent and C.C.A.)	
1-4	Rs. 1200-50-1300-60-1900	Likely to be revised on UGC pattern.	Rs. 3019/-
5-16	Rs. 700-40-1100-50-/Assessment - 1600.		Rs. 2059/-
17	Rs. 2000-60-2300-EB-75-3200	Revised State pattern	Rs 2260/-
18	Rs. 1400-40-1600-50-2300 EB-60-2600.		Rs. 1582/-

REGISTRAR

ENGINEERING COLLEGE

KOTA-324 007

(An Autonomous Institution of Govt. of Rajasthan)

Advt. No. ECK Estt 3 88

Dated: 6.6.1988

Applications on the prescribed form are invited for the following posts:

Post	Civil	Electrical/ Electronics	Mechanical
Readers	3	4	2
Lecturers	—	6	2

Qualifications and pay scales are as per UGC rules. Suitable candidates belonging to SC/ST will be preferred for the post of Lecturers. Last date for receipt of application is 1.8.1988.

Prescribed form and other particulars may be obtained by sending an IPO for Rs. 2/- along with a self-addressed envelope (24 cm x 10 cm) duly stamped (Re. 1/-) from the undersigned.

R.K. Jain
REGISTRAR

MANIPUR AGRICULTURAL COLLEGE SOCIETY

POST BOX NO. 31

IROISEMBA, IMPHAL-795001

Advt. No. Agri-College/1/2/79, Vol-V.

Dated the 28th May, 88

Application from intending candidates on plain paper giving full bio-data as per following items along with Crossed Indian Postal Order for Rs. 7.50 (Rs.1.90 only in case of SC/ST candidates) drawn in favour of Member Secretary, Manipur Agricultural College Society, Iroiseмба, Imphal are invited for the undermentioned posts in Manipur Agricultural College.

1. 2 (Two) posts of Professor. 1 (one) post of Crop Science and 1 (one) post of fundamental Science including Soil Science.

2. 4 (four) posts of Associate Professors.

- 1 (one) post of Extn.Edn.
- 1 (one) post of Entomology
- 1 (one) post of Agril. Economics &
- 1 (one) post of Soil Science.

3. 5 (five) posts of Asstt. Professors. 2 (two) Posts Agronomy, 2 (two) posts of Plant Breeding and Genetics and 1 (one) post of Plant Pathology.

4. 1 (one) post of Farm Supdt. For College farms,

Scale of Pay

Professor—Rs. 1500-60-1800-100-2000-125-2500/- (Pre-revised).

Assoc. Prof.—Rs. 1200-50-1300-60-1900/- (Pre-revised).

Asstt. Prof.—Rs. 700-40-1100-50-1600/- (Pre-revised).

Farm Supdt.—Rs. 800-40-1360-EB-45-1675/- (Pre-revised).

Qualifications

A. Professor. Essential

- (i) Bachelor's degree in Agricultural Science followed by Master's degree in the concerned discipline.
- (ii) Doctorate degree in any field of the concerned discipline.

(iii) Specialisation in concerned field with evidence of published work in standard journal or research.

(iv) At least 10 yrs. of service experience in teaching and/or research and/or extension after obtaining the Master's degree out of which 5 yrs. of experience shall be in the rank of Asso. Prof. or equivalent post on the last date fixed for receiving application.

Desirable

- (i) Qualities of leadership and ability to plan, coordinate/conduct and guide teaching and/or research and/or extension education programme.
- (ii) Experience of teaching P.G. course and/or guiding/conducting Research or Extension programme.
- (iii) Knowledge of rural Agricultural situation in North Eastern Region of India.

B. Associate Professor : Essential

- (i) Consistently good academic record with first or high second class Master's degree in the relevant subjects or an equivalent degree of Foreign University
- (ii) A Doctorate Degree or published research work of an equally high standard; and
- (iii) Five year's teaching/research experience in the field study.

Desirable

- (i) Capacity to guide research.
- (ii) Knowledge of local crops and field conditions.

C. Asstt. Prof. : Essential

- (i) Consistently good academic record with first or high 2nd class Master's degree in the relevant subject or an equivalent degree of Foreign University.

Desirable

- (i) Two years teaching/research experience in the field of study.
- (ii) A Doctorate degree or published research work or an equal standard; and

(iii) Knowledge of local crops and field condition.

D. Farm Superintendent

Essential

- (i) First class Bachelor's Degree in Agriculture or Horticulture.
- (ii) Five years experience in farm or orchard management.

Desirable

- (i) Knowledge of local crops and field conditions.
- (ii) Knowledge of local language.

Items of Bio-data to be furnished

- (1) Full name, (2) Permanent address, (3) Present postal address, (4) Father's Name, (5) Father's permanent address, (6) Nationality, (7) Religion, (8) Date of birth and Place of birth, (9) Marital status, (10) Whether belongs to SC/ST (certificate to be submitted if belongs to any of the said category), (11) Academic qualification beginning from Matriculation/equivalent standard, (12) Experience, (13) Research works as evidenced by published papers (copy to be enclosed), (14) Name and address of at least 2 (two) referees (not related to the candidate) and (15) Any other information which the candidate wants to furnish but not covered by the above items.

All the posts are temporary but likely to continue indefinitely. 31% and 2% of the vacancies are reserved for ST and SC candidates respectively subject to their fulfilling the qualifications and standard prescribed above.

Applications complete in all respects mentioning the post applied for along with attested copies of the certificates, mark sheets, testimonials, publication (if any) etc. must reach the office of the undersigned on or before 8.7.88 during office hours. Persons already in service should apply through proper channel.

Candidates who are called for interview will be given railway fare of admissible class for the journey from the place of origin and back or actual expenses on fare, whichever is less.

S. Bapu Singh
MEMBER SECRETARY

UNIVERSITY OF NORTH BENGAL

No. F. 22/Advt./Estt./24/R-88

Dated. 10.6.88

Applications in prescribed forms are invited from Indian Citizens for the following posts :

(A) Professor of Computer Science : Post one

Essential qualification (a) M.E. M. Tech in Computer Science, Electronics and Telecommunication, Radiophysics and Electronics or MCA or MSc in Mathematics, Statistics, Computer Science or in relevant/related subject or an equivalent degree of a foreign University with consistently good academic records

Good knowledge of modern High level languages and system softwares.

(c) Proven ability to guide research at doctoral level

(d) About 10 years' experience in teaching and/or Research

Desirable Ph.D. or equivalent published work

(B) Reader in Computer Science Posts two

Essential qualification Same (a) (b) & (c) as above (d) About 5 years' experience of teaching and/or Research
Desirable Same as above

(C) Lecturer in Computer Science Posts three

Essential Qualification Same (a) & (b) as above.

Desirable Teaching experience at DCA/MCA level.

For the above posts the qualifications may be relaxed at the discretion of the selection committee.

Choice of selection committee may not necessarily be confined to those who apply formally. No application except in prescribed application forms will be considered.

Note : A person applying for more than one post should send separate applications for each post.

Scales of Pay : Professor : Rs. 1500-2500/-, Reader : Rs. 1200-1900/- and Lecturer: Rs. 700-1600/- respectively with other allowances and benefits as per University rules.

Prescribed application forms may be obtained from the office of the Registrar personally on payment of Rs. 5 - (Rs. 3/ for S.C./S.T.) in cash at the University Cash Counter or by sending a self-addressed envelope of 25x13 cms. affixed with stamps worth Rs. 3 - accompanied by crossed I.P.O. Bank Draft of Rs. 5 - (Rs. 3 - for S.C./S.T.) in favour of the University of North Bengal. Filled in application forms (7 copies) along with one self addressed unstamped envelope must reach the office of the Registrar, P.O. North Bengal University, Dist. Darjeeling, Pin 734430 on or before 20.7.88

REGISTRAR

THE UNIVERSITY OF BURDWAN RAJBATI BURDWAN WEST BENGAL

ADVERTISEMENT NO 188-89

Dated 9th June, 1988

Applications in the prescribed form are invited for the following posts :

- A Registrar
- B Estate Officer
- C Part time Lady Medical Officer

Scale of Pay

For A Rs 1500-60-1800 - 100 - 2000-125 2-2500 -
For B Rs 700-40 1100-50-1600/-

The posts carry dearness and other admissible allowances according to the University Rules

Monthly honorarium for Part-time Lady Medical Officer :

Rs. 400 - per month including conveyance allowances.

Educational Qualifications & Experience Required

For post indicated at "A"

(a) Essential

- (i) Uniformly good academic record with a B+Master's Degree or its equivalent
- (ii) At least 15 years' experience in Academic Institutions like University or in an Institute of higher learning of which 5 years must be

in high level administration in a University or in an Institute of Post-Graduate Study.

(iii) Age not less than 40 years. Relaxable in the case of exceptionally qualified candidates.

(b) Desirable

- (i) A Doctorate Degree or published research work of merit or
- (ii) High level administrative experience in a Government or Quasi-Government Organisation or a Good background in administration and management in senior position

For the post indicated at "B" .

(a) Essential

- (i) A Degree in Law or Management.
- (ii) At least 5 years' experience in dealing with matters for upkeep of an estate including management of properties, control of personnel and the like
- (iii) Age not below 30 years. Relaxable in the case of exceptionally qualified candidates

(b) Desirable

Experience in gardening/landscaping or experience in inventory control or as legal consultant to a large scale industrial concern

For the post indicated at 'C' .

M.B.B.S. with 3 years' experience. Preference will be given to Diploma in Gynaecology & Obstetrics

Age Not ordinarily above 35 years. Relaxable in the case of exceptionally qualified candidates

The choice of the Selection Committee may not necessarily be confined to those who apply formally.

For application form and other information, apply to the Registrar, University of Burdwan with a self addressed stamped (Re 1/-) envelope (9"x4").

Last date for submission of application with the requisite fee of Rs. 5/- is 29th June, 1988.

P. Banerjee
REGISTRAR

Applications are invited for the post of Assistant Registrar (Academic) in the prescribed form obtainable from the Registrar on request accompanied by self-addressed envelope (23 cm x 10 cm). Persons employed in Government/Semi-Government Organisations or Educational Institutions must apply through proper channel. Forms will be supplied upto 30th June, 1988 and completed applications together with crossed I.P.O for Rs. 7.50 as application fee should reach the Registrar by the 15th July, 1988. (No application fee need be sent by SC/ST candidates).

Outstation candidates called for interview will be paid first class rail fare from the place of their residence to Bombay and back by the shortest route. Relaxation of standard for SC/ST candidates exists as per Government of India rules.

Scale of Pay: Rs. 700-40-1100-50-1600. (Likely to be revised). Total emoluments on the minimum of the scale Rs. 2785/- approx.

Job Description: Subject to the control of the Deao (A.P.), Registrar and Deputy Registrar (Academic), the appointee will be responsible for all matters concerning the planning and organisation of examinations, the maintenance, of students academic records, award of scholarships, maintenance of Senate records and implementation of Senate decisions, organisation of annual convocation etc. The job requires familiarity with academic rules and regulations.

Qualifications: A good Bachelor's degree in Arts, Science, Commerce, Engineering or Technology of a recognised University together with a post-graduate degree or Diploma in any of the above field or in public administration/management of a recognised institute/university or its equivalent; or recognised qualifications as Chartered/Cost/SAS Accountant.

Experience: A minimum of 8 year relevant administrative experience preferably in a Government, Educational or

Research Institute or in a Commercial Organisation of a national standing. The candidates would be expected to have some familiarity with academic activities and working procedure in higher educational institutions.

Desirable: (1) Teaching and research experience or experience of a life on a residential educational campus. (2) Experience of Computer System for Information processing and retrieval.

In the case of candidates with exceptional qualifications length of experience may be relaxed suitably.

REGISTRAR

MAHARSHI DAYANAND UNIVERSITY ROHTAK

Advertisement No. 4/88

Applications on prescribed form are invited for the following posts:

Professors: Pharmaceutical Sciences—*(One)*—*Sir Chhota Ram Chair*—*(One)*—Jawahar Lal Nehru Chair in the Department of History—*(one)*.

Readers: Pharmaceutical Sciences—*(One)*, Chemistry—*(one)*.

Lecturers: Pharmaceutical Sciences—*(one)*, Public Administration—*(two)*, Geography—*(two)* (leave vacancy), Pol. Science—*(One)*.

Specialisation

Professor—Sir Chhota Ram Chair: An eminent scholar in the field of Pol. Science/History/Economics.

Professor—Jawahar Lal Nehru Chair: Ancient Indian History and Archaeology/History of Haryana/Social and Economic History of Modern India.

Reader in Chemistry: Organic/Physical Chemistry

For first

Lecturer in Geography: Pol. Geography with competence to teach Geomorphology.

For Second: Regional Development/Regional Planning and Geography of

Human Welfare. (S. Geog.) (Preference shall be given for both the posts to candidates with advanced knowledge of/ evidence of application in research of advanced quantitative Techniques.

Qualifications for Pharmaceutical Sciences Dept's Posts

Professor: A scholar of eminence in the field of Pharmaceutical Sciences. Independent Published work of high standard. Teaching/Guiding Research/Industrial/Professional experience for a considerable period desirable.

Reader: Good academic record with first or high second class Master's Degree in Pharmacy with Doctor's Degree or equivalent published work.

Independent published work (in addition to the published work mentioned above) with at least 8 years' Teaching/Guiding Research/Industrial/Professional experience essential.

Lecturer

Essential: Consistently good Academic record with a first or high second class (B+) Master's Degree or an equivalent Degree of a Foreign University in Pharmacy.

Desirable: (in order of preference):

- (i) A Doctor's Degree / Evidence of research work of equivalent standard in Pharmacy.
- (ii) Teaching experience of Degree/Post-Graduate classes.

Provided that if a teacher is not a Ph.D. at the time of his/her appointment and does not qualify himself/herself for the award of a Ph.D. Degree from a recognised University in the subject which is being taught by him/her within the prescribed time/limit, he/she shall not be entitled to any future increments beyond the stage of Rs. 3400/- till such time he/she fulfils the above mentioned requirements.

(For other posts, U.G.C.'s qualifications).

U.G.C. qualifications and pay scales for all categories of the teaching posts. Other allowances and benefits of Contributory Provident Fund for all teaching and non-teaching posts

admissible as per University rules. Higher start admissible in deserving cases. Knowledge of Hindi essential for all posts. Number of posts is liable to be increased or decreased.

The applications will be screened by the Committee to be appointed by the Vice-Chancellor. The Screening Committee will be competent to screen applicant and classify them on the basis of qualifications and experience and call for interview only the selected candidates.

Reservation for Ex servicemen/B.C./S.C./S.T. candidates as per rules. However, where the candidates under reserved categories are not available, the posts will be filled from amongst the general category's candidates.

Applications for the teaching posts are to be submitted on the form prescribed for Class 'A' Officers alongwith attested testimonials and crossed Postal Order (s) for Rs. 10/- drawn in favour of the Finance Officer, M.D. University, Rohtak, payable at the Post Office, Rohtak. Applications (through proper cha-

nnel from those in employment) complete in all respects should reach the Assistant Registrar (Estt.) (Teaching), M.D. University, Rohtak by 7.7.1988. The application forms can be had from the Press Manager, M.D. University, Rohtak on payment of Rs. 2/- at the counter and Rs. 3/- by ordinary post.

CORRIGENDUM IN RESPECT OF ADVERTISEMENT NO. 2/88.

(The Hindustan Times 24.5.1988 and
The Tribune 27.5.88).

1. The field of specialisation for the post of Lecturer in Psychology should be read as Environmental/Industrial and Organisational/Community Psychology / Behaviour Genetics/Psychopharmacology."
2. The number of posts of Temporary Lecturers in B.Ed. Correspondence Cell may be read as 20 out of which 5 are likely to continue.
3. The number of posts of Lecturer in History may be read as 3.

4. Specialisation for the post of Reader in History may be read as "Indian History."

REGISTRAR

HARYANA AGRICULTURAL UNIVERSITY

HISAR

CORRIGENDUM NO. 3 TO ADVERTISEMENT NO. 1/88

With reference to our advertisement No. 1/88 published in these columns on 15.2.1988, the designation of the post of Senior Acarologist in the Scale of Rs. 1200-1900 (Sr No. 11) may be read as Acarologist. Other conditions will remain unchanged.

REGISTRAR

THE KASTURBA MEDICAL COLLEGE

MANIPAL, D.K.

NOTIFICATION

Admission to

"POST-GRADUATE DIPLOMA COURSE IN YOGA THERAPY"

AFFILIATED TO MANGALORE UNIVERSITY

Applications are invited from eligible candidates for admission to the "Post - graduate Diploma Course in Yoga Therapy", affiliated to Mangalore University at the Kasturba Medical College, Manipal. This is a unique course in India. The duration of the course is one year. Candidates seeking admission to the course must be a graduate. The prescribed application form can be had from the Principal, Kasturba Medical College, Manipal-576 119, by sending a crossed postal order of Rs. 10/- drawn in favour of "The Principal, Kasturba Medical College, Manipal", along with a self addressed Re. 1/- stamped envelope of 9" x 4" size. The last date for receipt of the filled up application form is **8th July, 1988.**

**MIRANDA HOUSE
UNIVERSITY COLLEGE FOR
WOMEN**

**UNIVERSITY OF DELHI
PATEL CHEST MARG,
DELHI-110007**

Applications on the prescribed forms are invited for the post of lady lecturers in the following subjects so as to reach the office of the Principal latest by 15th July, 1988.

Subject	No. of vacancies & nature of post.	
	Permanent	Temporary
English	1	1 or 2
Economics	—	1
Sociology	—	1
Political Science	1	—
Physics	—	1
Zoology	—	1

Scale of Pay: Rs. 2200-75-2800-100-4000.

Qualifications required: As per Delhi University rules. Details will be supplied along with prescribed forms.

For prescribed application forms and details of qualifications prescribed for various posts, please send your written request along with a self addressed 60 paise stamped envelope of the size 9" x 4" before 1-7-1988. These can be collected in person also from the College office on all working days (Monday to Friday) between 9.30 a.m. and 12 noon.

Note: 1. Applications should be made on the prescribed forms only.

2. Candidates already in employment should send their applications through their employers.

3. Applications received after the last date prescribed will not be considered.

4. It will be open to the college authorities to alter anytime hereafter, the member, nature, duration of vacancies, without notice.

5. Temporary vacancies mentioned above are leave vacancies.

6. Canvassing in any form will disqualify a candidate.

PUNJABI UNIVERSITY

PATIALA

Advt No. 10/Rect./PRO

Applications are invited for the post of Registrar (Grade Rs. 1775-75-2000/100-2400+100% special pay) on the prescribed form available from the Head of the University Publication Bureau on payment of Rs. - at the counter or by sending a crossed IPO, drawn in favour of the Registrar along with a self-addressed envelope of the size 25 x 10 cms stamped with postage worth Rs. 5.50 and super-scribed at the top. APPLICATION FOR THE POST OF REGISTRAR, so as to reach the undersigned by July 6, 1988 and through proper channel within 7 days thereafter :

**POST GRADUATE INSTITUTE OF MEDICAL
EDUCATION & RESEARCH, CHANDIGARH**

ADMISSION NOTICE NO. 2 88

Applications on prescribed form are invited by Second July, 1988 for the following courses commencing at the Institute from July, 1988 :

I. M.Sc. (Biochemistry)

Minimum admission requirements: B.Sc. or B.Sc. (Hons.) or B.Sc. (Anatomy, Physiology and Biochemistry taken together) with 55% marks for general candidates and 50% marks for candidates belonging to Scheduled Tribes.

Duration of the Course: 2 academic years for those with B.Sc. and having Chemistry as a major subject or B.Sc. (Hons.) in Biochemistry or B.Sc. (Anatomy, Physiology and Biochemistry taken together) and 3 years for those who have passed B.Sc. (Hons.) with Chemistry as a minor or subsidiary subject.

II. M.Sc. (Pharmacology)

Minimum admission requirements: MBBS or B.Sc. (Anatomy, Physiology and Biochemistry taken together) passed or B.V.Sc. or B.Pharm passed from a recognised University.

Duration of the Course: 3 academic years.

Application form and detailed information are available from the office of the undersigned either personally on payment of Rs. 5/- at the counter (from 11 A.M. to 12 Noon and 3 P.M. to 4 P.M. on all working days) or by post for which the request must be accompanied with a self-addressed envelope size (23 cms. x 10 cms.) bearing postage stamps of Rs. 4/- and a crossed postal order/bank draft for Rs. 5/- drawn in favour of the Director of the Institute.

048/CH

REGISTRAR

Qualifications

At least a second Class Master's degree from an Indian University or equivalent qualifications from a foreign University with at least 10 years experience in a responsible administrative position in a University/Educational Institution or Government Office.

Note :

1. Candidates must possess working knowledge of Punjabi.
2. The Selection Committee might relax the qualifications and experience in exceptional cases.
3. Those who have applied earlier for this post, need not apply again.

REGISTRAR

MAHARSHI DAYANAND UNIVERSITY

ROHTAK

Advertisement No. 3/88

Applications on prescribed proforma are invited for the following posts :

1. Assistant Director (Adult Education)-1 (temporary upto 31.3.1995) (Rs. 1200-50-1300-60-1900) (UGC)

Qualifications

- (a) (i) A candidate holding a Ph.D / M.Phil. degree should possess atleast a second class Master's degree.

OR

- (ii) A candidate without a Ph.D. degree should possess a high second class Master's degree and second class in the Bachelor's degree.

OR

- (iii) A candidate not possessing Ph.D. degree but possessing second class Master's degree should have obtained First class in the Bachelor's degree.

- (b) About five years experience of field work teaching or research in a subject having bearing on Adult Continuing Extension Community Non formal Education or Community Development. This condition may be relaxed on the recommendation of the Selection Committee.

2. Project Officer (Adult Education)-1 (temporary upto 31.3.1995) (Rs. 700-40-1100-50-1600) (UGC)

Qualifications

Essential-1

- (i) Good academic record in the subject of Adult Continuing Community Extension Education Community Development from a recognised Indian University or an equivalent degree from a foreign University.

- (ii) M.Phil or Ph.D. in a subject related to Adult learning or Ph.D. in a subject under Social Sciences or Education or Evidence of published learning materials and learning resources on areas as listed (i) above or published research in any of the relevant area/areas indicated above

OR

- (i) Good academic record in Social Sciences Social Work Humanities / Education / Science / Home Science.

- (ii) Post Master's diploma in Adult & Continuing Education from a

recognised Indian University or an equivalent diploma/degree from a foreign University.

- (iii) M.Phil. or Ph.D. in a subject related to Adult learning or a Ph.D. in a subject under Social Sciences or Education or Evidence of published learning materials and learning resources on areas listed in Adult/Continuing/Community / Extension Education/Community Development or published research in any of these area/areas.

Desirable

Two years experience of field work on a subject having bearing on Adult/Continuing/Extension Community / Non formal Education/Community Development;

OR

Two years teaching experience in the subject of Adult and Continuing Education at graduate post-graduate levels.

3. Assistant Sports Officer-2 (Male & Female) (Rs. 1640-60-2600-EB-75-2900)

Qualifications

M.A. (Physical Education) or M.P.Ed. in the second Division. Preference will be given to N.I.S. trained persons

4. Assistant Director Youth Welfare-1 (Rs. 1600-50-2300-EB-60-2660)

Qualifications

Essential

Atleast second class Master's degree with atleast five years experience of organising Youth leadership training Camp, Youth Festivals and other related activities

Desirable

Flair for dramatics

5. Laboratory Supervisor-1 (Physics Dept.) (Rs. 1600-50-2300-EB-60-2660)

Qualifications

Essential

- (i) Matric with Science with about 10 years experience of working as Head Laboratory Assistant, Sr. Store-keeper in a University post-graduate dept.

OR

B.Sc. with about 5 years' experience of working as Head Laboratory Assistant Sr. Store-keeper in post-graduate Department.

Desirable

- (ii) Experience of dealing with purchase, import of chemicals, glass-apparatus, scientific instruments

and handling of store/supervision of Laboratory staff.

- (iii) Knowledge of typing will be considered as an additional qualification. Qualification may be relaxed in case of candidates found otherwise suitable.

6. Technical Assistant-1 (Physics Dept.) (Rs. 1600-50-2300-EB-60-2660)

Qualifications

Diploma of 3 years' course in Electronics or equivalent certificate from a recognised institution. Two years' experience of maintenance and repair of electronics instruments in teaching/research institution would be preferred.

Qualifications may be relaxed in case of candidates found otherwise suitable.

7. Statistical Assistant-1

(Rs. 1400-40-1600-50-2300-EB-60-2600)

Qualifications

Graduate with Economics or Mathematics or Commerce or Statistics as one of the elective subjects. Five years experience in a Govt Semi Govt. office. Persons having experience of collection of statistical data will be preferred.

8. Proof Reader Gr. I-1

(Rs. 1400-40-1600-50-2300-EB-60-2600)

Qualifications

Atleast a graduate degree with five years experience as Proof Reader in a University Govt. office or a reputed concern. Knowledge of Hindi and English is essential.

9. Stereo-Typists-14

(Rs. 950-20-1150-EB-25-1500)

Qualifications

Second class Matriculate Hr. Secondary Pre-University Intermediate or B.A. B.Sc. B.Com. 80 w.p.m. speed in English shorthand and to transcribe it at the speed of 15 w.p.m.

10. Clerk-Cum-Typists-27

(Rs. 950-20-1150-EB-25-1500)

Qualifications

Matriculation/Hr. Secondary, Pre-University atleast in 1st Division or atleast a graduate. Candidates will be required to qualify a written-test and a test in type-writing at the speed of 30 w.p.m. in English/Hindi, relaxable in the case of Graduates.

11. Junior Store-Keeper-1 (Geography Dept.)
(Rs. 950-20-1150-EB-25-1500)

Qualifications

B.A./B.Sc. with Geography as one of the papers at the graduate level. The candidate should have atleast two years experience as Store-keeper of a University level or equivalent thereof. Preference will be given to those who have the knowledge of typewriting (English).

12. Junior Store-Keeper-1 (Physics Dept.)
(Rs. 950-20-1150-EB-25-1500)

Qualifications

B.A/B.Sc. with physics as one of the papers at the graduate level. The candidate should have atleast two years experience as Store-keeper of a University level or equivalent thereof. Preference will be given to those who have the knowledge of typewriting (English).

13. Compositors-6
(Rs. 950-20-1150-EB-25-1500)

Qualifications

- (i) Atleast Matric;
- (ii) Seven years experience of Hindi & English Composing in a Press of repute.

14. Distributors-2
(Rs. 950-20-1150-EB-25-1500)

Qualifications

Atleast Matric. Knowledge of composing and distributing both English & Hindi. Atleast three years experience of composing and distributing in a Press of repute.

15. Copy Holders-2
(Rs. 950-20-1150-EB-25-1500)

Qualifications

Matric 2nd Division with proficiency in reading Hindi & English. Two years experience as Copy Holder in a reputed Press.

16. Dance Teacher-1
(Rs. 1200-30-1360-EB-40-2040)

Qualifications

- (i) M.A. in Dance OR

(ii) Nritya Bhaskra (Master in Dance OR

- (iii) A professional or Traditional artist with highly commendable professional achievements in dance with [atleast 10 years' experience.

17. Senior Binder-1
(Rs. 950-20-1150-EB-25-1500)

Qualifications

Atleast Matriculate with seven years' practical experience of all aspects of quality binding, including warehouse machine, cutting, ruling, folding, stitching, tooling etc.

18. Ruling Master-1
(Rs. 950-20-1150-EB-25-1500)

Qualifications

Literate with three years experience of the line.

19. Restorer-1
(Rs. 950-20-1150-EB-25-1500)

Qualifications

Matriculate with atleast two years' experience as Library Attendant.

20. Library Attendants-4
(Rs. 950-20-1150-EB-25-1400)

Qualifications

Matriculation only.

21. Ruling Assistant-1
(Rs. 775-12-955-EB-14-1025)

Qualifications

Literate with one years' experience of the line.

22. Junior Binders-2
(Rs. 775-12-955-EB-14-1025)

Qualifications

- (i) atleast Middle;
- (ii) three years practical experience of all Binding Operations

including warehouse machines, cutting, ruling, folding, stitching, embossing, perforating etc.

23. Binding Helpers-2
(Rs. 750-12-870-EB-14-940)

Qualifications

Literate with two years experience.

24. Lab. Bearer-1
(Rs. 750-12-870-EB-14-940)

Qualifications

Matric with Science.

Age for all posts not below 18 years.

Other allowances and benefits of Contributory Provident Fund for all posts admissible as per University rules. Higher start admissible in deserving cases. Knowledge of Hindi essential for all posts. Number of posts is liable to be increased or decreased. Qualifications relaxable for internal candidates.

The applications will be screened by a Committee to be appointed by the competent authority. The Screening Committee will be competent to screen applicants and classify them on the basis of qualifications and experience and call for interview only the selected candidates.

Reservation for Ex-Servicemen/SC/BC ST candidates as per rules. However, where the candidates under reserved categories are not available, the posts will be filled up from amongst the general category's candidates.

Application forms can be had from the Manager (Printing & Publication), M.D. University, Rohtak on payment of Rs. 2/- at the counter or Rs. 3/- by ordinary post. Applications complete in all respects, supported by attested copies of testimonials and crossed Indian Postal Order(s) for Rs. 10/- in favour of the Finance Officer, M.D. University, Rohtak payable at post office Rohtak be sent to the Registrar, M.D. University by 28th July, 1988. However, no application fee from the candidates belonging to SC/ST/BC/Ex. SM is required.

REGISTRAR